

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: HALO

Report Number: P565405

Luminaire Tested: **HLBQL6069FS1E-5000K-UNIT**

Issue Date: 8/31/2021

Test Information

Test Method: LM-79-08
Report Number: P565405
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2109887F005)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 8/31/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HLBQL6069FS1E-5000K-UNIT
Description: 6in Surface Mount Downlight Fixture with Color Selectable Switch
Light Source: (72) 5000K CCT, 94 CRI LEDS
Ballast/Driver: -

Summary

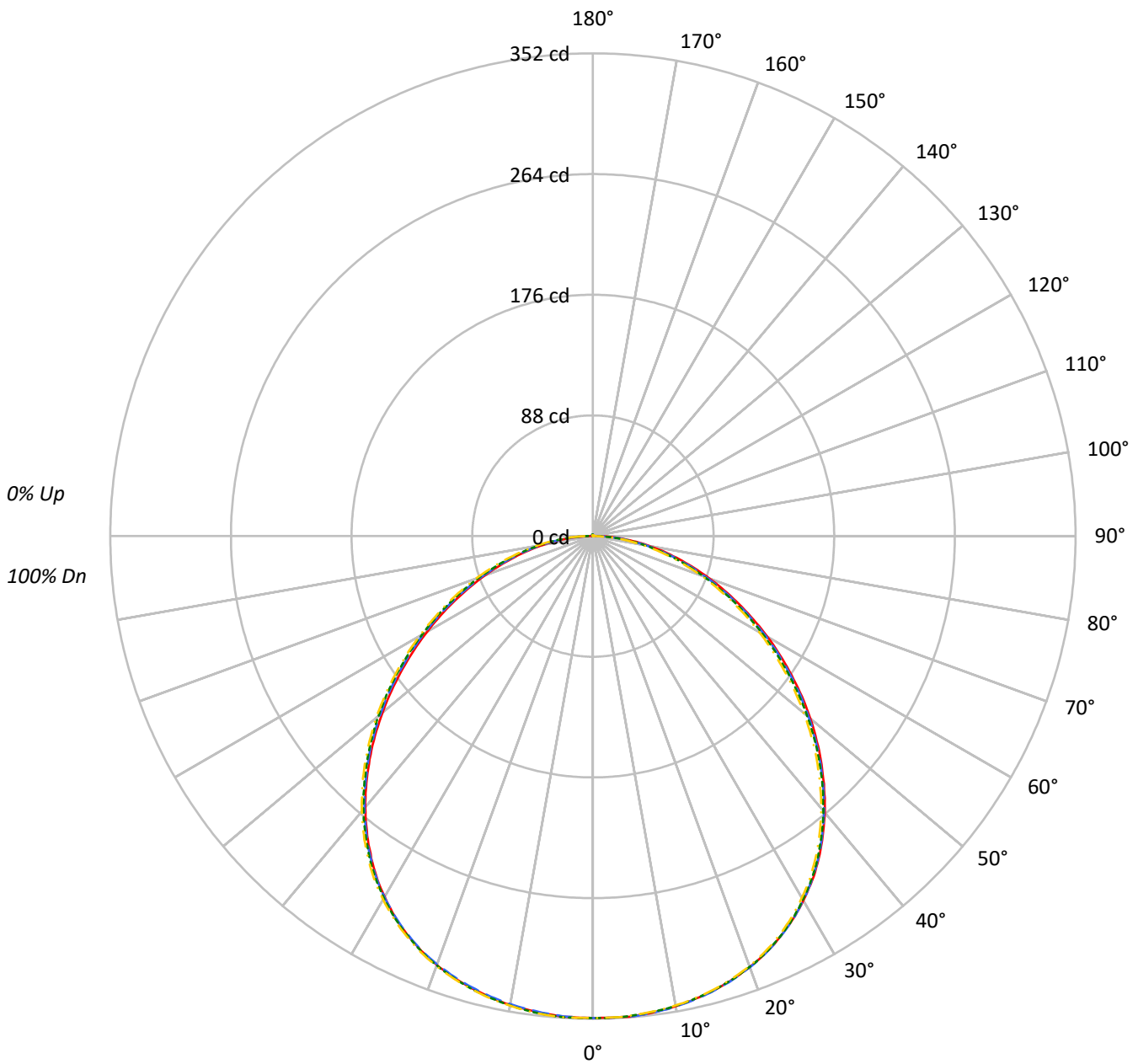
Lumens per Lamp: N/A
Luminaire Lumens: 1005.0 lumens
Efficiency: N/A
Efficacy: 83.7 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.28 / 1.37
Luminous Opening: Circular (Dia: 0.5m x H: 0m)
CIE Type: Direct

Input Watts (W): 12
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P565405
CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - · - · 90°-270° - · - · 135°-315°



TEST NUMBER: P565405

CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 |
| RC | 80 | | | | 70 | | | | 50 | | | | 30 | | | | 10 | | | | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | 100 | 100 | 100 |
| 1 | 109 | 104 | 99 | 95 | 106 | 101 | 97 | 94 | 97 | 94 | 91 | 93 | 90 | 88 | 89 | 87 | 85 | 83 | 83 | 83 | 83 |
| 2 | 99 | 90 | 84 | 78 | 96 | 89 | 82 | 77 | 85 | 80 | 75 | 82 | 77 | 73 | 78 | 75 | 72 | 69 | 69 | 69 | 69 |
| 3 | 90 | 79 | 71 | 65 | 88 | 78 | 70 | 64 | 75 | 68 | 63 | 72 | 66 | 62 | 69 | 65 | 61 | 58 | 58 | 58 | 58 |
| 4 | 82 | 70 | 62 | 55 | 80 | 69 | 61 | 55 | 67 | 59 | 54 | 64 | 58 | 53 | 62 | 57 | 52 | 50 | 50 | 50 | 50 |
| 5 | 76 | 63 | 54 | 47 | 74 | 62 | 53 | 47 | 60 | 52 | 47 | 58 | 51 | 46 | 56 | 50 | 45 | 43 | 43 | 43 | 43 |
| 6 | 70 | 57 | 48 | 41 | 68 | 56 | 47 | 41 | 54 | 46 | 41 | 52 | 45 | 40 | 51 | 45 | 40 | 38 | 38 | 38 | 38 |
| 7 | 65 | 51 | 43 | 37 | 63 | 51 | 42 | 36 | 49 | 42 | 36 | 48 | 41 | 36 | 46 | 40 | 36 | 34 | 34 | 34 | 34 |
| 8 | 61 | 47 | 38 | 33 | 59 | 46 | 38 | 32 | 45 | 38 | 32 | 44 | 37 | 32 | 42 | 36 | 32 | 30 | 30 | 30 | 30 |
| 9 | 57 | 43 | 35 | 29 | 55 | 43 | 35 | 29 | 41 | 34 | 29 | 40 | 34 | 29 | 39 | 33 | 29 | 27 | 27 | 27 | 27 |
| 10 | 53 | 40 | 32 | 27 | 52 | 39 | 32 | 27 | 38 | 31 | 26 | 37 | 31 | 26 | 36 | 30 | 26 | 24 | 24 | 24 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° | 270° |
|-----|------|------|------|------|
| 0° | 1790 | 1790 | 1790 | 1790 |
| 5° | 1795 | 1793 | 1791 | 1794 |
| 10° | 1800 | 1799 | 1795 | 1798 |
| 15° | 1807 | 1806 | 1800 | 1802 |
| 20° | 1813 | 1812 | 1804 | 1805 |
| 25° | 1813 | 1812 | 1801 | 1803 |
| 30° | 1805 | 1801 | 1787 | 1793 |
| 35° | 1784 | 1778 | 1757 | 1769 |
| 40° | 1749 | 1739 | 1717 | 1731 |
| 45° | 1698 | 1683 | 1658 | 1678 |
| 50° | 1641 | 1616 | 1588 | 1617 |
| 55° | 1572 | 1540 | 1507 | 1546 |
| 60° | 1497 | 1459 | 1424 | 1468 |
| 65° | 1421 | 1369 | 1335 | 1388 |
| 70° | 1349 | 1279 | 1246 | 1315 |
| 75° | 1285 | 1194 | 1159 | 1242 |
| 80° | 1241 | 1117 | 1076 | 1191 |
| 85° | 1262 | 1046 | 982 | 1192 |



TEST NUMBER: P565405
 CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 33.4 | 3.3 |
| 10°-20° | 96.6 | 9.6 |
| 20°-30° | 148.1 | 14.7 |
| 30°-40° | 178.1 | 17.7 |
| 40°-50° | 180.1 | 17.9 |
| 50°-60° | 156.5 | 15.6 |
| 60°-70° | 115.8 | 11.5 |
| 70°-80° | 68.9 | 6.9 |
| 80°-90° | 24.3 | 2.4 |
| 90°-100° | 1.4 | 0.1 |
| 100°-110° | 0.1 | 0.0 |
| 110°-120° | 0.2 | 0.0 |
| 120°-130° | 0.2 | 0.0 |
| 130°-140° | 0.4 | 0.0 |
| 140°-150° | 0.4 | 0.0 |
| 150°-160° | 0.4 | 0.0 |
| 160°-170° | 0.2 | 0.0 |
| 170°-180° | 0.1 | 0.0 |
| 0°-30° | 278.1 | 27.7 |
| 0°-40° | 456.2 | 45.4 |
| 0°-60° | 792.7 | 78.9 |
| 0°-90° | 1001.6 | 99.7 |
| 90°-120° | 1.6 | 0.2 |
| 90°-150° | 2.7 | 0.3 |
| 90°-180° | 3.0 | 0.3 |
| 0°-180° | 1005.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 90° | 180° | 270° | 360° | Flux |
|------|-----|-----|------|------|------|------|
| 0° | 352 | 352 | 352 | 352 | 352 | |
| 5° | 351 | 351 | 350 | 351 | 351 | 33 |
| 15° | 343 | 343 | 341 | 342 | 343 | 97 |
| 25° | 323 | 322 | 320 | 321 | 323 | 149 |
| 35° | 287 | 286 | 283 | 284 | 287 | 179 |
| 45° | 236 | 234 | 230 | 233 | 236 | 182 |
| 55° | 177 | 173 | 170 | 174 | 177 | 158 |
| 65° | 118 | 114 | 111 | 115 | 118 | 117 |
| 75° | 65 | 61 | 59 | 63 | 65 | 69 |
| 85° | 22 | 18 | 17 | 20 | 22 | 22 |
| 90° | 3 | 0 | 0 | 2 | 3 | 2 |
| 95° | 0 | 0 | 0 | 0 | 0 | 0 |
| 105° | 0 | 0 | 0 | 0 | 0 | 0 |
| 115° | 0 | 0 | 0 | 0 | 0 | 0 |
| 125° | 0 | 0 | 0 | 0 | 0 | 0 |
| 135° | 1 | 1 | 0 | 0 | 1 | 0 |
| 145° | 1 | 1 | 0 | 1 | 1 | 1 |
| 155° | 1 | 1 | 1 | 1 | 1 | 0 |
| 165° | 1 | 1 | 1 | 1 | 1 | 0 |
| 175° | 1 | 1 | 1 | 1 | 1 | 0 |
| 180° | 1 | 1 | 1 | 1 | 1 | |



TEST NUMBER: P565405
 CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|--------|-------|
| 0° | 351.5 | 351.5 | 351.5 | 351.5 | 351.5 | 351.5 | 351.5 | 351.5 | 351.5 | 351.5 | 351.5 |
| 0.5° | 351.5 | 351.4 | 351.5 | 351.5 | 351.5 | 351.5 | 351.4 | 351.5 | 351.3 | 351.5 | 351.4 |
| 1° | 351.4 | 351.4 | 351.4 | 351.5 | 351.5 | 351.4 | 351.4 | 351.5 | 351.3 | 351.3 | 351.3 |
| 1.5° | 351.4 | 351.4 | 351.4 | 351.5 | 351.5 | 351.4 | 351.3 | 351.5 | 351.3 | 351.3 | 351.3 |
| 2° | 351.4 | 351.4 | 351.4 | 351.5 | 351.5 | 351.3 | 351.3 | 351.3 | 351.3 | 351.2 | 351.1 |
| 2.5° | 351.4 | 351.4 | 351.4 | 351.5 | 351.4 | 351.3 | 351.3 | 351.3 | 351.1 | 351.1 | 351.0 |
| 3° | 351.4 | 351.4 | 351.4 | 351.5 | 351.4 | 351.3 | 351.3 | 351.2 | 351.2 | 351.1 | 350.9 |
| 3.5° | 351.4 | 351.4 | 351.4 | 351.5 | 351.4 | 351.3 | 351.3 | 351.2 | 351.2 | 351.1 | 350.9 |
| 4° | 351.5 | 351.4 | 351.4 | 351.5 | 351.1 | 351.1 | 351.1 | 350.9 | 350.9 | 350.8 | 350.6 |
| 4.5° | 351.5 | 351.4 | 351.4 | 351.5 | 350.9 | 350.7 | 350.7 | 350.6 | 350.5 | 350.4 | 350.2 |
| 5° | 351.2 | 351.3 | 351.4 | 351.5 | 350.7 | 350.5 | 350.5 | 350.5 | 350.3 | 350.2 | 350.0 |
| 5.5° | 350.9 | 351.1 | 351.1 | 351.4 | 350.5 | 350.3 | 350.4 | 350.2 | 350.1 | 350.1 | 349.8 |
| 6° | 350.8 | 350.9 | 350.9 | 351.1 | 350.3 | 350.1 | 350.1 | 350.1 | 349.9 | 349.7 | 349.6 |
| 6.5° | 350.5 | 350.7 | 350.7 | 350.8 | 350.1 | 349.8 | 349.8 | 349.7 | 349.5 | 349.3 | 349.2 |
| 7° | 350.3 | 350.5 | 350.5 | 350.7 | 349.8 | 349.6 | 349.6 | 349.3 | 349.2 | 349.2 | 348.8 |
| 7.5° | 350.0 | 350.2 | 350.1 | 350.4 | 349.5 | 349.3 | 349.3 | 349.0 | 348.9 | 348.7 | 348.6 |
| 8° | 349.6 | 349.9 | 349.8 | 350.1 | 349.2 | 349.0 | 349.0 | 348.8 | 348.6 | 348.2 | 348.2 |
| 8.5° | 349.3 | 349.6 | 349.5 | 349.7 | 349.0 | 348.6 | 348.7 | 348.4 | 348.2 | 347.9 | 347.8 |
| 9° | 349.0 | 349.2 | 349.2 | 349.3 | 348.6 | 348.3 | 348.3 | 348.0 | 347.8 | 347.6 | 347.4 |
| 9.5° | 348.5 | 348.7 | 348.8 | 349.0 | 348.1 | 348.0 | 348.0 | 347.8 | 347.5 | 347.1 | 346.9 |
| 10° | 348.1 | 348.3 | 348.4 | 348.5 | 347.8 | 347.5 | 347.6 | 347.3 | 347.0 | 346.8 | 346.6 |
| 10.5° | 347.7 | 347.9 | 347.9 | 348.1 | 347.4 | 347.3 | 347.1 | 346.9 | 346.8 | 346.3 | 346.0 |
| 11° | 347.3 | 347.5 | 347.5 | 347.7 | 347.0 | 346.8 | 346.9 | 346.5 | 346.2 | 345.7 | 345.6 |
| 11.5° | 346.8 | 346.9 | 347.0 | 347.3 | 346.5 | 346.2 | 346.2 | 345.9 | 345.6 | 345.2 | 345.1 |
| 12° | 346.3 | 346.5 | 346.5 | 346.8 | 346.0 | 345.7 | 345.7 | 345.4 | 345.1 | 344.8 | 344.5 |
| 12.5° | 345.6 | 346.0 | 346.0 | 346.2 | 345.4 | 345.2 | 345.1 | 344.8 | 344.5 | 344.1 | 344.0 |
| 13° | 345.2 | 345.5 | 345.4 | 345.6 | 344.9 | 344.7 | 344.6 | 344.2 | 343.9 | 343.5 | 343.3 |
| 13.5° | 344.6 | 344.8 | 344.8 | 345.1 | 344.3 | 344.0 | 344.0 | 343.7 | 343.3 | 342.9 | 342.7 |
| 14° | 344.0 | 344.2 | 344.2 | 344.4 | 343.7 | 343.5 | 343.4 | 343.1 | 342.6 | 342.3 | 342.1 |
| 14.5° | 343.3 | 343.6 | 343.7 | 343.8 | 343.1 | 342.8 | 342.7 | 342.5 | 342.0 | 341.6 | 341.4 |
| 15° | 342.7 | 343.0 | 343.0 | 343.2 | 342.6 | 342.2 | 342.1 | 341.7 | 341.4 | 341.1 | 340.7 |
| 15.5° | 342.0 | 342.3 | 342.3 | 342.4 | 341.8 | 341.5 | 341.4 | 341.0 | 340.6 | 340.1 | 340.1 |
| 16° | 341.2 | 341.6 | 341.6 | 341.7 | 341.0 | 340.8 | 340.6 | 340.4 | 339.8 | 339.5 | 339.3 |
| 16.5° | 340.4 | 340.7 | 340.8 | 340.9 | 340.4 | 340.1 | 339.8 | 339.6 | 339.1 | 338.7 | 338.5 |
| 17° | 339.7 | 340.0 | 340.1 | 340.2 | 339.6 | 339.3 | 339.1 | 338.7 | 338.3 | 338.0 | 337.8 |
| 17.5° | 338.9 | 339.2 | 339.2 | 339.3 | 338.8 | 338.5 | 338.3 | 338.0 | 337.4 | 337.2 | 336.8 |
| 18° | 338.0 | 338.3 | 338.4 | 338.5 | 338.1 | 337.5 | 337.4 | 337.1 | 336.6 | 336.3 | 336.0 |
| 18.5° | 337.2 | 337.5 | 337.5 | 337.6 | 337.0 | 336.7 | 336.5 | 336.1 | 335.7 | 335.3 | 335.0 |
| 19° | 336.2 | 336.6 | 336.5 | 336.6 | 336.2 | 335.8 | 335.5 | 335.2 | 334.8 | 334.6 | 334.1 |
| 19.5° | 335.4 | 335.6 | 335.6 | 335.7 | 335.2 | 334.9 | 334.6 | 334.3 | 333.9 | 333.5 | 333.5 |
| 20° | 334.6 | 334.7 | 334.7 | 334.8 | 334.3 | 333.9 | 333.8 | 333.2 | 332.8 | 332.7 | 332.4 |
| 20.5° | 333.5 | 333.7 | 333.7 | 333.8 | 333.4 | 332.9 | 332.7 | 332.3 | 331.7 | 331.5 | 331.2 |
| 21° | 332.4 | 332.6 | 332.6 | 332.7 | 332.4 | 331.8 | 331.5 | 331.1 | 330.6 | 330.4 | 330.2 |
| 21.5° | 331.4 | 331.6 | 331.6 | 331.6 | 331.2 | 330.7 | 330.4 | 330.0 | 329.5 | 329.3 | 329.2 |
| 22° | 330.3 | 330.5 | 330.5 | 330.4 | 330.1 | 329.6 | 329.2 | 328.8 | 328.3 | 328.1 | 328.0 |



TEST NUMBER: P565405
 CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|--------|-------|
| 22.5° | 329.0 | 329.3 | 329.3 | 329.3 | 328.9 | 328.4 | 328.1 | 327.6 | 327.2 | 326.9 | 326.7 |
| 23° | 327.9 | 328.2 | 328.1 | 328.1 | 327.8 | 327.2 | 326.8 | 326.4 | 325.9 | 325.5 | 325.5 |
| 23.5° | 326.7 | 326.9 | 326.8 | 326.8 | 326.5 | 326.0 | 325.5 | 325.1 | 324.6 | 324.3 | 324.2 |
| 24° | 325.5 | 325.6 | 325.5 | 325.5 | 325.2 | 324.6 | 324.2 | 323.8 | 323.3 | 323.1 | 322.9 |
| 24.5° | 324.0 | 324.3 | 324.2 | 324.1 | 323.9 | 323.2 | 322.7 | 322.3 | 321.9 | 321.6 | 321.5 |
| 25° | 322.7 | 323.0 | 322.8 | 322.6 | 322.5 | 321.8 | 321.3 | 321.0 | 320.5 | 320.2 | 320.0 |
| 25.5° | 321.3 | 321.5 | 321.5 | 321.3 | 321.1 | 320.4 | 319.9 | 319.4 | 319.1 | 318.7 | 318.7 |
| 26° | 319.8 | 320.1 | 320.0 | 319.8 | 319.5 | 318.9 | 318.4 | 318.0 | 317.6 | 317.4 | 317.3 |
| 26.5° | 318.3 | 318.6 | 318.5 | 318.3 | 318.1 | 317.4 | 316.8 | 316.7 | 316.0 | 315.8 | 315.8 |
| 27° | 317.0 | 317.1 | 317.1 | 316.8 | 316.7 | 315.7 | 315.3 | 314.8 | 314.4 | 314.2 | 314.2 |
| 27.5° | 315.4 | 315.5 | 315.4 | 315.1 | 314.9 | 314.2 | 313.6 | 313.0 | 312.7 | 312.7 | 312.6 |
| 28° | 313.8 | 313.9 | 313.8 | 313.4 | 313.3 | 312.5 | 311.9 | 311.5 | 311.1 | 311.0 | 310.9 |
| 28.5° | 312.1 | 312.4 | 312.1 | 312.0 | 311.5 | 310.8 | 310.1 | 309.5 | 309.2 | 309.2 | 309.2 |
| 29° | 310.5 | 310.5 | 310.4 | 310.0 | 309.9 | 309.0 | 308.4 | 307.9 | 307.5 | 307.6 | 307.5 |
| 29.5° | 308.8 | 308.9 | 308.6 | 308.2 | 308.1 | 307.2 | 306.6 | 306.2 | 305.7 | 305.6 | 305.8 |
| 30° | 306.9 | 307.1 | 306.7 | 306.4 | 306.3 | 305.3 | 304.7 | 304.3 | 303.8 | 303.8 | 303.9 |
| 30.5° | 305.2 | 305.3 | 304.9 | 304.4 | 304.4 | 303.6 | 302.9 | 302.4 | 301.9 | 302.0 | 302.1 |
| 31° | 303.3 | 303.3 | 303.1 | 302.5 | 302.6 | 301.5 | 300.9 | 300.4 | 300.0 | 300.0 | 300.2 |
| 31.5° | 301.4 | 301.4 | 301.1 | 300.6 | 300.6 | 299.6 | 299.1 | 298.6 | 298.1 | 298.1 | 298.5 |
| 32° | 299.6 | 299.7 | 299.3 | 298.7 | 298.7 | 297.7 | 297.1 | 296.5 | 296.1 | 295.9 | 296.5 |
| 32.5° | 297.7 | 297.7 | 297.4 | 296.7 | 296.7 | 295.8 | 295.0 | 294.5 | 294.0 | 293.7 | 294.5 |
| 33° | 295.7 | 295.7 | 295.3 | 294.7 | 294.7 | 293.7 | 292.8 | 292.3 | 291.9 | 291.9 | 292.4 |
| 33.5° | 293.6 | 293.4 | 293.1 | 292.5 | 292.5 | 291.3 | 290.6 | 290.2 | 289.7 | 289.4 | 290.2 |
| 34° | 291.4 | 291.4 | 291.0 | 290.3 | 290.5 | 289.3 | 288.4 | 287.8 | 287.5 | 287.5 | 288.0 |
| 34.5° | 289.3 | 289.2 | 288.8 | 288.0 | 288.2 | 287.0 | 286.2 | 285.7 | 285.3 | 285.3 | 285.8 |
| 35° | 287.0 | 287.0 | 286.6 | 285.8 | 286.0 | 284.7 | 283.9 | 283.4 | 282.6 | 283.1 | 283.6 |
| 35.5° | 284.8 | 284.7 | 284.2 | 283.6 | 283.6 | 282.4 | 281.5 | 281.0 | 280.3 | 280.8 | 281.3 |
| 36° | 282.5 | 282.4 | 282.0 | 281.3 | 281.3 | 280.1 | 279.2 | 278.7 | 278.3 | 278.4 | 279.0 |
| 36.5° | 280.2 | 280.1 | 279.6 | 279.1 | 278.8 | 277.7 | 276.8 | 276.2 | 275.9 | 276.0 | 276.6 |
| 37° | 277.8 | 277.7 | 277.2 | 276.9 | 276.4 | 275.3 | 274.4 | 273.8 | 273.5 | 273.6 | 274.2 |
| 37.5° | 275.4 | 275.3 | 274.8 | 274.6 | 274.1 | 272.9 | 271.8 | 271.3 | 270.9 | 271.1 | 271.7 |
| 38° | 273.0 | 272.8 | 272.3 | 272.4 | 271.5 | 270.4 | 269.4 | 268.8 | 268.5 | 268.7 | 269.3 |
| 38.5° | 270.5 | 270.3 | 269.8 | 270.2 | 269.2 | 267.8 | 266.8 | 266.2 | 265.9 | 266.1 | 266.8 |
| 39° | 268.0 | 267.8 | 267.3 | 267.9 | 266.6 | 265.3 | 264.4 | 263.8 | 263.4 | 263.7 | 264.4 |
| 39.5° | 265.6 | 265.4 | 264.9 | 265.7 | 264.1 | 262.9 | 261.8 | 261.1 | 260.8 | 261.0 | 261.8 |
| 40° | 263.1 | 262.8 | 262.2 | 263.5 | 261.5 | 260.1 | 259.1 | 258.5 | 258.2 | 258.4 | 259.2 |
| 40.5° | 260.4 | 260.1 | 259.5 | 261.2 | 258.8 | 257.5 | 256.3 | 255.8 | 255.6 | 255.7 | 256.5 |
| 41° | 257.8 | 257.5 | 256.8 | 259.0 | 255.9 | 254.8 | 253.6 | 253.0 | 252.8 | 253.1 | 253.8 |
| 41.5° | 255.2 | 254.9 | 254.1 | 256.8 | 253.4 | 252.0 | 250.9 | 250.4 | 250.1 | 250.3 | 251.0 |
| 42° | 252.4 | 252.1 | 251.5 | 254.5 | 250.7 | 249.3 | 248.0 | 247.5 | 247.3 | 247.5 | 248.4 |
| 42.5° | 249.7 | 249.4 | 248.8 | 252.3 | 247.9 | 246.5 | 245.2 | 244.7 | 244.5 | 244.7 | 245.7 |
| 43° | 247.2 | 246.8 | 246.0 | 250.1 | 245.1 | 243.6 | 242.4 | 241.9 | 241.6 | 242.0 | 242.9 |
| 43.5° | 244.2 | 244.0 | 243.2 | 247.8 | 242.3 | 240.8 | 239.6 | 239.0 | 238.8 | 239.1 | 240.1 |
| 44° | 241.4 | 241.2 | 240.3 | 245.6 | 239.4 | 237.9 | 236.6 | 236.1 | 235.9 | 236.2 | 237.0 |
| 44.5° | 238.7 | 238.3 | 237.6 | 243.4 | 236.6 | 235.0 | 233.8 | 233.2 | 233.0 | 233.3 | 234.5 |



TEST NUMBER: P565405
 CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|--------|-------|
| 45° | 235.8 | 235.5 | 234.8 | 241.1 | 233.6 | 232.1 | 230.8 | 230.5 | 230.2 | 230.5 | 231.6 |
| 45.5° | 233.0 | 232.6 | 231.8 | 238.9 | 230.8 | 229.3 | 228.1 | 227.5 | 227.3 | 227.7 | 228.9 |
| 46° | 230.4 | 230.0 | 229.1 | 236.7 | 227.9 | 226.4 | 225.1 | 224.6 | 224.4 | 224.8 | 226.0 |
| 46.5° | 227.5 | 227.1 | 226.2 | 234.4 | 225.0 | 223.4 | 222.1 | 221.6 | 221.4 | 221.9 | 223.1 |
| 47° | 224.6 | 224.1 | 223.1 | 232.2 | 222.1 | 220.4 | 219.1 | 218.7 | 218.4 | 218.9 | 220.2 |
| 47.5° | 221.6 | 221.0 | 220.2 | 230.0 | 219.1 | 217.4 | 216.0 | 215.6 | 215.5 | 215.9 | 217.2 |
| 48° | 218.6 | 218.2 | 217.2 | 227.8 | 216.0 | 214.4 | 213.0 | 212.6 | 212.5 | 212.9 | 214.3 |
| 48.5° | 215.8 | 215.4 | 214.4 | 225.5 | 213.1 | 211.4 | 209.9 | 209.6 | 209.4 | 210.0 | 211.3 |
| 49° | 213.0 | 212.5 | 211.6 | 223.3 | 210.0 | 208.3 | 206.9 | 206.6 | 206.5 | 206.9 | 208.3 |
| 49.5° | 210.0 | 209.3 | 208.5 | 221.1 | 207.1 | 205.3 | 203.8 | 203.6 | 203.4 | 203.9 | 205.3 |
| 50° | 207.1 | 206.4 | 205.4 | 218.8 | 204.0 | 202.2 | 200.7 | 200.5 | 200.4 | 200.9 | 202.3 |
| 50.5° | 204.0 | 203.4 | 202.4 | 216.6 | 200.8 | 199.2 | 197.7 | 197.4 | 197.3 | 197.9 | 199.3 |
| 51° | 201.0 | 200.4 | 199.4 | 214.4 | 197.9 | 196.1 | 194.6 | 194.4 | 194.4 | 194.9 | 196.3 |
| 51.5° | 198.0 | 197.3 | 196.4 | 212.1 | 194.9 | 193.1 | 191.6 | 191.4 | 191.2 | 192.0 | 193.5 |
| 52° | 195.2 | 194.6 | 193.5 | 209.9 | 191.8 | 190.0 | 188.5 | 188.3 | 188.3 | 188.7 | 190.4 |
| 52.5° | 192.1 | 191.5 | 190.6 | 207.7 | 188.7 | 186.9 | 185.4 | 185.2 | 185.0 | 185.8 | 187.5 |
| 53° | 189.0 | 188.4 | 187.5 | 205.4 | 185.6 | 183.8 | 182.2 | 182.1 | 182.0 | 182.7 | 184.4 |
| 53.5° | 186.0 | 185.3 | 184.4 | 203.2 | 182.6 | 180.7 | 179.2 | 179.1 | 178.9 | 179.7 | 181.4 |
| 54° | 183.0 | 182.2 | 181.4 | 201.0 | 179.5 | 177.7 | 176.1 | 176.0 | 175.8 | 176.5 | 178.3 |
| 54.5° | 179.9 | 179.2 | 178.4 | 198.7 | 176.5 | 174.6 | 173.0 | 172.9 | 172.7 | 173.5 | 175.3 |
| 55° | 177.0 | 176.3 | 175.2 | 196.5 | 173.4 | 171.5 | 169.9 | 169.9 | 169.7 | 170.4 | 172.2 |
| 55.5° | 173.9 | 173.1 | 172.2 | 194.3 | 170.2 | 168.5 | 166.8 | 166.8 | 166.6 | 167.4 | 169.1 |
| 56° | 170.9 | 170.1 | 169.2 | 192.0 | 167.2 | 165.4 | 163.8 | 163.8 | 163.6 | 164.4 | 166.2 |
| 56.5° | 167.8 | 167.0 | 166.2 | 189.8 | 164.2 | 162.4 | 160.9 | 160.8 | 160.7 | 161.4 | 163.1 |
| 57° | 164.9 | 164.0 | 163.1 | 187.6 | 161.2 | 159.5 | 157.9 | 157.8 | 157.7 | 158.5 | 160.3 |
| 57.5° | 161.9 | 161.1 | 160.2 | 185.3 | 158.4 | 156.5 | 154.9 | 154.8 | 154.7 | 155.6 | 157.2 |
| 58° | 158.9 | 158.1 | 157.3 | 183.1 | 155.3 | 153.4 | 151.9 | 151.9 | 151.7 | 152.5 | 154.2 |
| 58.5° | 156.0 | 155.2 | 154.2 | 180.9 | 152.3 | 150.4 | 148.9 | 148.8 | 148.6 | 149.5 | 151.2 |
| 59° | 153.1 | 152.2 | 151.2 | 178.6 | 149.1 | 147.4 | 145.9 | 145.7 | 145.7 | 146.6 | 148.2 |
| 59.5° | 150.0 | 149.0 | 148.2 | 176.4 | 146.2 | 144.4 | 143.0 | 142.7 | 142.7 | 143.6 | 145.2 |
| 60° | 147.0 | 146.1 | 145.1 | 174.2 | 143.2 | 141.4 | 140.0 | 139.8 | 139.8 | 140.7 | 142.3 |
| 60.5° | 144.0 | 143.2 | 142.1 | 171.9 | 140.1 | 138.3 | 137.1 | 136.8 | 136.8 | 137.7 | 139.3 |
| 61° | 141.0 | 140.2 | 139.1 | 169.7 | 137.1 | 135.3 | 134.1 | 133.8 | 133.9 | 134.8 | 136.3 |
| 61.5° | 138.1 | 137.2 | 136.2 | 167.5 | 134.2 | 132.4 | 131.2 | 130.9 | 130.9 | 131.8 | 133.4 |
| 62° | 135.1 | 134.3 | 133.2 | 165.3 | 131.1 | 129.4 | 128.3 | 127.7 | 128.0 | 128.9 | 130.5 |
| 62.5° | 132.2 | 131.4 | 130.3 | 163.0 | 128.2 | 126.5 | 125.5 | 125.0 | 125.1 | 126.2 | 127.5 |
| 63° | 129.3 | 128.5 | 127.3 | 160.8 | 125.4 | 123.6 | 122.5 | 122.1 | 122.2 | 123.3 | 124.6 |
| 63.5° | 126.5 | 125.8 | 124.6 | 158.5 | 122.3 | 120.7 | 119.7 | 119.2 | 119.3 | 120.3 | 121.8 |
| 64° | 123.6 | 122.9 | 121.6 | 156.3 | 119.4 | 117.8 | 116.8 | 116.3 | 116.5 | 117.5 | 118.9 |
| 64.5° | 120.8 | 120.0 | 118.7 | 154.1 | 116.6 | 114.8 | 113.9 | 113.4 | 113.6 | 114.6 | 116.0 |
| 65° | 117.9 | 117.2 | 115.9 | 151.9 | 113.6 | 112.0 | 111.1 | 110.4 | 110.8 | 111.8 | 113.2 |
| 65.5° | 115.1 | 114.4 | 113.0 | 149.6 | 110.7 | 109.2 | 108.3 | 107.6 | 107.9 | 109.0 | 110.4 |
| 66° | 112.3 | 111.5 | 110.1 | 147.4 | 107.9 | 106.2 | 105.4 | 104.7 | 105.1 | 106.2 | 107.5 |
| 66.5° | 109.5 | 109.0 | 107.3 | 145.2 | 105.0 | 103.4 | 102.7 | 101.9 | 102.4 | 103.4 | 104.7 |
| 67° | 106.8 | 106.0 | 104.6 | 142.9 | 102.1 | 100.6 | 99.9 | 99.1 | 99.6 | 100.6 | 101.9 |



TEST NUMBER: P565405
 CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|-------|-------|-------|-------|------|--------|------|--------|------|--------|------|
| 67.5° | 104.0 | 103.3 | 101.7 | 140.7 | 99.4 | 97.8 | 97.1 | 96.3 | 96.8 | 97.9 | 99.1 |
| 68° | 101.2 | 100.5 | 99.0 | 138.5 | 96.5 | 95.1 | 94.4 | 93.6 | 94.2 | 95.1 | 96.4 |
| 68.5° | 98.5 | 97.9 | 96.2 | 136.2 | 93.8 | 92.2 | 91.7 | 91.1 | 91.6 | 92.5 | 93.7 |
| 69° | 95.9 | 95.2 | 93.4 | 134.0 | 91.3 | 89.7 | 89.1 | 88.4 | 89.0 | 90.0 | 91.1 |
| 69.5° | 93.1 | 92.6 | 90.9 | 131.8 | 88.5 | 87.1 | 86.5 | 85.7 | 86.4 | 87.3 | 88.4 |
| 70° | 90.6 | 90.0 | 88.3 | 129.5 | 85.9 | 84.3 | 83.7 | 83.0 | 83.7 | 84.7 | 85.8 |
| 70.5° | 88.1 | 87.4 | 85.6 | 127.3 | 83.3 | 81.7 | 81.1 | 80.4 | 81.2 | 82.1 | 83.1 |
| 71° | 85.4 | 84.8 | 82.9 | 125.1 | 80.7 | 79.1 | 78.5 | 77.9 | 78.5 | 79.5 | 80.6 |
| 71.5° | 82.7 | 82.2 | 80.3 | 122.8 | 78.1 | 76.5 | 75.9 | 75.2 | 76.1 | 76.9 | 78.0 |
| 72° | 80.2 | 79.6 | 77.7 | 120.6 | 75.5 | 74.0 | 73.4 | 72.7 | 73.5 | 74.4 | 75.4 |
| 72.5° | 77.6 | 77.0 | 75.2 | 118.4 | 73.0 | 71.6 | 70.9 | 70.2 | 71.0 | 71.8 | 73.0 |
| 73° | 75.1 | 74.4 | 72.7 | 116.1 | 70.4 | 69.0 | 68.4 | 67.8 | 68.5 | 69.4 | 70.4 |
| 73.5° | 72.6 | 71.9 | 70.2 | 113.9 | 68.0 | 66.5 | 65.9 | 65.2 | 66.1 | 66.9 | 68.0 |
| 74° | 70.1 | 69.4 | 67.7 | 111.7 | 65.5 | 64.2 | 63.5 | 62.8 | 63.7 | 64.5 | 65.6 |
| 74.5° | 67.7 | 66.9 | 65.3 | 109.4 | 63.1 | 61.8 | 61.1 | 60.5 | 61.3 | 62.1 | 63.2 |
| 75° | 65.3 | 64.6 | 62.9 | 107.2 | 60.7 | 59.3 | 58.7 | 58.2 | 58.9 | 59.9 | 60.8 |
| 75.5° | 62.9 | 62.1 | 60.5 | 105.0 | 58.4 | 57.0 | 56.4 | 55.9 | 56.7 | 57.5 | 58.5 |
| 76° | 60.4 | 59.8 | 58.1 | 102.7 | 56.1 | 54.7 | 54.1 | 53.6 | 54.4 | 55.2 | 56.4 |
| 76.5° | 58.1 | 57.6 | 55.9 | 100.5 | 53.8 | 52.5 | 51.9 | 51.4 | 52.1 | 52.9 | 54.0 |
| 77° | 55.9 | 55.1 | 53.6 | 98.3 | 51.5 | 50.2 | 49.6 | 49.1 | 49.8 | 50.7 | 51.8 |
| 77.5° | 53.6 | 52.9 | 51.3 | 96.0 | 49.2 | 48.0 | 47.2 | 46.9 | 47.7 | 48.4 | 49.6 |
| 78° | 51.3 | 50.6 | 49.1 | 93.8 | 47.0 | 45.7 | 45.0 | 44.7 | 45.4 | 46.2 | 47.4 |
| 78.5° | 48.9 | 48.3 | 46.9 | 91.6 | 44.7 | 43.6 | 42.8 | 42.6 | 43.2 | 44.0 | 45.2 |
| 79° | 46.8 | 46.1 | 44.7 | 89.4 | 42.5 | 41.3 | 40.7 | 40.4 | 41.0 | 41.8 | 43.0 |
| 79.5° | 44.6 | 43.8 | 42.4 | 87.1 | 40.4 | 39.2 | 38.5 | 38.2 | 38.9 | 39.7 | 40.9 |
| 80° | 42.3 | 41.6 | 40.2 | 84.9 | 38.1 | 37.0 | 36.3 | 36.2 | 36.7 | 37.5 | 38.8 |
| 80.5° | 40.2 | 39.4 | 38.1 | 82.7 | 36.0 | 34.8 | 34.1 | 34.1 | 34.7 | 35.4 | 36.7 |
| 81° | 37.9 | 37.3 | 35.9 | 80.4 | 33.9 | 32.6 | 32.0 | 32.0 | 32.5 | 33.4 | 34.7 |
| 81.5° | 35.9 | 35.2 | 33.8 | 78.2 | 31.8 | 30.6 | 29.9 | 29.9 | 30.4 | 31.2 | 32.6 |
| 82° | 33.7 | 33.0 | 31.7 | 76.0 | 29.7 | 28.5 | 27.8 | 27.9 | 28.3 | 29.2 | 30.5 |
| 82.5° | 31.6 | 30.9 | 29.6 | 73.7 | 27.5 | 26.5 | 25.8 | 25.9 | 26.4 | 27.2 | 28.5 |
| 83° | 29.5 | 28.8 | 27.6 | 71.5 | 25.6 | 24.5 | 23.8 | 23.9 | 24.4 | 25.2 | 26.5 |
| 83.5° | 27.5 | 26.8 | 25.4 | 69.3 | 23.5 | 22.5 | 22.0 | 22.2 | 22.5 | 23.2 | 24.5 |
| 84° | 25.5 | 24.7 | 23.6 | 67.0 | 21.7 | 20.8 | 20.0 | 20.1 | 20.6 | 21.4 | 22.5 |
| 84.5° | 23.5 | 22.9 | 21.7 | 64.8 | 19.8 | 18.7 | 18.1 | 18.2 | 18.7 | 19.5 | 20.8 |
| 85° | 21.6 | 20.9 | 19.6 | 62.6 | 17.9 | 16.9 | 16.1 | 16.4 | 16.8 | 17.7 | 18.9 |
| 85.5° | 19.7 | 18.9 | 17.7 | 60.3 | 16.0 | 15.0 | 14.3 | 14.5 | 14.9 | 15.7 | 17.0 |
| 86° | 17.7 | 17.0 | 15.8 | 58.1 | 14.1 | 13.1 | 12.4 | 12.7 | 13.1 | 13.9 | 15.1 |
| 86.5° | 15.9 | 15.1 | 13.9 | 55.9 | 12.2 | 11.2 | 10.5 | 10.8 | 11.3 | 12.1 | 13.3 |
| 87° | 14.0 | 13.2 | 12.0 | 53.6 | 10.3 | 9.3 | 8.6 | 9.0 | 9.4 | 10.2 | 11.5 |
| 87.5° | 12.1 | 11.3 | 10.3 | 51.4 | 8.5 | 7.5 | 6.8 | 7.2 | 7.6 | 8.5 | 9.7 |
| 88° | 10.3 | 9.5 | 8.5 | 49.2 | 6.6 | 5.6 | 5.1 | 5.5 | 5.9 | 6.8 | 7.9 |
| 88.5° | 8.4 | 7.7 | 6.7 | 46.9 | 4.8 | 3.8 | 3.4 | 3.7 | 4.1 | 4.9 | 6.2 |
| 89° | 6.6 | 5.9 | 4.8 | 44.7 | 3.0 | 2.2 | 1.7 | 1.8 | 2.4 | 3.2 | 4.5 |
| 89.5° | 4.8 | 4.1 | 3.1 | 42.5 | 1.4 | 0.7 | 0.5 | 0.4 | 0.7 | 1.5 | 2.8 |



TEST NUMBER: P565405
 CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|--------|-----|-------|-----|-------|-----|--------|------|--------|------|--------|------|
| 90° | 3.1 | 2.4 | 1.5 | 40.2 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 1.1 |
| 90.5° | 1.6 | 0.9 | 0.3 | 38.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 91° | 0.5 | 0.2 | 0.1 | 35.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 91.5° | 0.1 | 0.1 | 0.1 | 33.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 92° | 0.1 | 0.1 | 0.1 | 31.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 92.5° | 0.1 | 0.1 | 0.1 | 29.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| 93° | 0.1 | 0.1 | 0.1 | 26.8 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| 93.5° | 0.1 | 0.1 | 0.1 | 24.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 94° | 0.0 | 0.1 | 0.1 | 22.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 94.5° | 0.0 | 0.1 | 0.1 | 20.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 95° | 0.0 | 0.1 | 0.1 | 17.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 95.5° | 0.0 | 0.1 | 0.1 | 15.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 96° | 0.0 | 0.1 | 0.1 | 13.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 96.5° | 0.0 | 0.1 | 0.1 | 11.2 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 |
| 97° | 0.0 | 0.1 | 0.1 | 9.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 |
| 97.5° | 0.0 | 0.1 | 0.1 | 6.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| 98° | 0.0 | 0.1 | 0.1 | 4.5 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 |
| 98.5° | 0.0 | 0.1 | 0.1 | 2.3 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| 99° | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 |
| 99.5° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 |
| 100° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 |
| 100.5° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 101° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 101.5° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 102° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 102.5° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 103° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 103.5° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 |
| 104° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 |
| 104.5° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 |
| 105° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 |
| 105.5° | 0.0 | 0.1 | 0.1 | 0.0 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 |
| 106° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 |
| 106.5° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 107° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 107.5° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 108° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 108.5° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.2 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 |
| 109° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.3 | 0.1 | 0.1 | 0.2 | 0.1 |
| 109.5° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.3 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 |
| 110° | 0.0 | 0.0 | 0.1 | 0.0 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| 110.5° | 0.0 | 0.0 | 0.1 | 0.0 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.3 |
| 111° | 0.0 | 0.1 | 0.1 | 0.0 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.3 |
| 111.5° | 0.0 | 0.1 | 0.1 | 0.0 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| 112° | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 |



TEST NUMBER: P565405
 CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|--------|-----|-------|-----|-------|-----|--------|------|--------|------|--------|------|
| 112.5° | 0.0 | 0.0 | 0.1 | 0.0 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 |
| 113° | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.2 | 0.2 | 0.3 | 0.3 | 0.2 | 0.3 |
| 113.5° | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 |
| 114° | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| 114.5° | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 |
| 115° | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| 115.5° | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| 116° | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| 116.5° | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| 117° | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 |
| 117.5° | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.3 | 0.4 |
| 118° | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 |
| 118.5° | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| 119° | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 |
| 119.5° | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| 120° | 0.0 | 0.0 | 0.1 | 0.0 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| 120.5° | 0.0 | 0.0 | 0.1 | 0.0 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 |
| 121° | 0.0 | 0.0 | 0.3 | 0.0 | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | 0.4 | 0.4 |
| 121.5° | 0.0 | 0.0 | 0.3 | 0.0 | 0.4 | 0.3 | 0.4 | 0.3 | 0.3 | 0.4 | 0.4 |
| 122° | 0.0 | 0.0 | 0.2 | 0.0 | 0.4 | 0.5 | 0.4 | 0.4 | 0.3 | 0.4 | 0.5 |
| 122.5° | 0.0 | 0.0 | 0.2 | 0.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.4 | 0.5 |
| 123° | 0.0 | 0.0 | 0.2 | 0.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.4 | 0.4 |
| 123.5° | 0.0 | 0.0 | 0.2 | 0.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | 0.4 | 0.4 |
| 124° | 0.0 | 0.0 | 0.2 | 0.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | 0.4 | 0.5 |
| 124.5° | 0.0 | 0.0 | 0.3 | 0.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 |
| 125° | 0.0 | 0.0 | 0.3 | 0.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 |
| 125.5° | 0.0 | 0.0 | 0.3 | 0.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 |
| 126° | 0.0 | 0.0 | 0.3 | 0.0 | 0.4 | 0.5 | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 |
| 126.5° | 0.0 | 0.0 | 0.3 | 0.0 | 0.4 | 0.5 | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 |
| 127° | 0.1 | 0.1 | 0.3 | 0.0 | 0.4 | 0.5 | 0.5 | 0.5 | 0.4 | 0.5 | 0.5 |
| 127.5° | 0.1 | 0.1 | 0.4 | 0.0 | 0.4 | 0.5 | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 |
| 128° | 0.1 | 0.2 | 0.4 | 0.0 | 0.4 | 0.5 | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 |
| 128.5° | 0.1 | 0.3 | 0.3 | 0.0 | 0.4 | 0.5 | 0.5 | 0.5 | 0.4 | 0.5 | 0.5 |
| 129° | 0.1 | 0.3 | 0.3 | 0.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 129.5° | 0.1 | 0.3 | 0.3 | 0.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.4 | 0.5 | 0.5 |
| 130° | 0.1 | 0.3 | 0.3 | 0.0 | 0.5 | 0.5 | 0.6 | 0.5 | 0.4 | 0.5 | 0.6 |
| 130.5° | 0.1 | 0.4 | 0.4 | 0.0 | 0.5 | 0.5 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 |
| 131° | 0.2 | 0.4 | 0.3 | 0.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 131.5° | 0.2 | 0.4 | 0.5 | 0.0 | 0.5 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 132° | 0.2 | 0.5 | 0.5 | 0.0 | 0.5 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 132.5° | 0.2 | 0.5 | 0.5 | 0.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 133° | 0.3 | 0.5 | 0.5 | 0.0 | 0.5 | 0.7 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 |
| 133.5° | 0.3 | 0.5 | 0.5 | 0.0 | 0.6 | 0.7 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 |
| 134° | 0.3 | 0.5 | 0.5 | 0.0 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 |
| 134.5° | 0.4 | 0.5 | 0.6 | 0.0 | 0.7 | 0.6 | 0.7 | 0.5 | 0.5 | 0.5 | 0.5 |



TEST NUMBER: P565405
 CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|--------|-----|-------|-----|-------|-----|--------|------|--------|------|--------|------|
| 135° | 0.8 | 0.6 | 0.6 | 0.0 | 0.7 | 0.6 | 0.7 | 0.6 | 0.5 | 0.5 | 0.6 |
| 135.5° | 0.8 | 0.6 | 0.5 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 | 0.6 |
| 136° | 0.8 | 0.8 | 0.5 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.6 | 0.6 |
| 136.5° | 0.8 | 0.8 | 0.7 | 0.0 | 0.6 | 0.6 | 0.6 | 0.7 | 0.5 | 0.6 | 0.6 |
| 137° | 0.8 | 0.7 | 0.9 | 0.0 | 0.6 | 0.6 | 0.6 | 0.7 | 0.5 | 0.6 | 0.7 |
| 137.5° | 0.8 | 0.7 | 0.9 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.6 | 0.6 |
| 138° | 0.8 | 0.7 | 0.9 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.6 | 0.6 |
| 138.5° | 0.8 | 0.8 | 0.9 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.6 | 0.6 |
| 139° | 0.8 | 0.8 | 0.9 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.6 | 0.7 |
| 139.5° | 0.8 | 0.8 | 0.9 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.6 | 0.7 |
| 140° | 0.8 | 0.8 | 0.9 | 0.0 | 0.7 | 0.6 | 0.6 | 0.6 | 0.5 | 0.6 | 0.7 |
| 140.5° | 0.8 | 0.8 | 0.9 | 0.0 | 0.7 | 0.6 | 0.7 | 0.6 | 0.5 | 0.6 | 0.7 |
| 141° | 0.8 | 0.8 | 0.9 | 0.0 | 0.7 | 0.6 | 0.7 | 0.6 | 0.5 | 0.6 | 0.7 |
| 141.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.6 | 0.7 | 0.6 | 0.5 | 0.6 | 0.7 |
| 142° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.6 | 0.7 | 0.6 | 0.5 | 0.7 | 0.7 |
| 142.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.7 | 0.7 | 0.7 | 0.5 | 0.6 | 0.7 |
| 143° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.7 | 0.7 | 0.7 | 0.5 | 0.6 | 0.7 |
| 143.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.7 | 0.7 | 0.7 | 0.5 | 0.7 | 0.7 |
| 144° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.7 | 0.7 | 0.7 | 0.5 | 0.7 | 0.8 |
| 144.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.7 | 0.7 | 0.7 | 0.5 | 0.7 | 0.8 |
| 145° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.7 | 0.7 | 0.7 | 0.5 | 0.7 | 0.7 |
| 145.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.7 | 0.7 | 0.7 | 0.5 | 0.7 | 0.7 |
| 146° | 0.8 | 0.9 | 0.9 | 0.0 | 0.8 | 0.7 | 0.7 | 0.7 | 0.5 | 0.7 | 0.7 |
| 146.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.8 | 0.7 | 0.7 | 0.7 | 0.5 | 0.7 | 0.7 |
| 147° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.7 | 0.7 | 0.7 | 0.6 | 0.7 | 0.9 |
| 147.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.7 | 0.7 | 0.7 | 0.5 | 0.7 | 0.9 |
| 148° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.7 | 0.7 | 0.7 | 0.5 | 0.8 | 0.8 |
| 148.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.9 | 0.7 | 0.8 | 0.7 | 0.8 | 0.9 |
| 149° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.9 | 0.7 | 0.8 | 0.7 | 0.8 | 0.9 |
| 149.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.8 | 0.7 | 0.8 | 0.7 | 0.8 | 0.9 |
| 150° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.8 | 0.7 | 0.8 | 0.7 | 0.8 | 0.9 |
| 150.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.9 | 0.7 | 0.9 | 0.7 | 0.8 | 0.9 |
| 151° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.8 | 0.7 | 0.8 | 0.7 | 0.8 | 0.9 |
| 151.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.8 | 0.7 | 0.8 | 0.7 | 0.8 | 0.9 |
| 152° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.9 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 152.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.9 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 153° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.9 | 0.7 | 0.8 | 0.8 | 0.8 | 0.9 |
| 153.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.9 | 0.7 | 0.8 | 0.8 | 0.8 | 0.9 |
| 154° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.9 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 154.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 0.9 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 155° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 155.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 156° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 156.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 157° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |



TEST NUMBER: P565405
 CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|--------|-----|-------|-----|-------|-----|--------|------|--------|------|--------|------|
| 157.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 158° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 158.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 159° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 159.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 160° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 160.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 161° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 161.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 162° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 162.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 163° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 163.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 164° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 164.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 165° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 165.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 166° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 166.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 167° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 167.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 168° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 168.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 169° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 169.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 170° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 170.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 171° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 171.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 172° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 172.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 173° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 173.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 174° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 174.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 175° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 175.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 176° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 176.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 177° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 177.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 178° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 178.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 179° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |
| 179.5° | 0.8 | 0.9 | 0.9 | 0.0 | 0.7 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 |



TEST NUMBER: P565405
CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

CANDELA DISTRIBUTION (continued):

| | | | | | | | | | | | |
|------|-----|-------|-----|-------|-----|--------|------|--------|------|--------|------|
| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
| 180° | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |



TEST NUMBER: P565405
 CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|-------|--------|-------|--------|-------|
| 0° | 351.5 | 351.5 | 351.5 | 351.5 | 351.5 | 351.5 |
| 0.5° | 351.5 | 351.5 | 351.4 | 351.5 | 351.5 | 351.5 |
| 1° | 351.5 | 351.5 | 351.4 | 351.4 | 351.5 | 351.4 |
| 1.5° | 351.3 | 351.5 | 351.4 | 351.4 | 351.5 | 351.4 |
| 2° | 351.1 | 351.5 | 351.4 | 351.4 | 351.5 | 351.4 |
| 2.5° | 351.1 | 351.5 | 351.4 | 351.4 | 351.5 | 351.4 |
| 3° | 351.1 | 351.5 | 351.4 | 351.4 | 351.5 | 351.4 |
| 3.5° | 351.1 | 351.5 | 351.4 | 351.4 | 351.5 | 351.4 |
| 4° | 350.9 | 351.4 | 351.3 | 351.5 | 351.6 | 351.5 |
| 4.5° | 350.5 | 351.1 | 351.1 | 351.3 | 351.4 | 351.5 |
| 5° | 350.3 | 350.9 | 350.9 | 351.1 | 351.3 | 351.2 |
| 5.5° | 349.9 | 350.7 | 350.6 | 350.9 | 351.0 | 350.9 |
| 6° | 349.7 | 350.5 | 350.3 | 350.6 | 350.7 | 350.8 |
| 6.5° | 349.3 | 350.1 | 350.1 | 350.3 | 350.4 | 350.5 |
| 7° | 349.0 | 349.9 | 349.7 | 350.1 | 350.1 | 350.3 |
| 7.5° | 348.8 | 349.5 | 349.5 | 349.7 | 349.8 | 350.0 |
| 8° | 348.5 | 349.1 | 349.1 | 349.4 | 349.5 | 349.6 |
| 8.5° | 348.1 | 348.8 | 348.7 | 349.0 | 349.2 | 349.3 |
| 9° | 347.6 | 348.4 | 348.2 | 348.7 | 348.8 | 349.0 |
| 9.5° | 347.1 | 348.0 | 347.8 | 348.2 | 348.4 | 348.5 |
| 10° | 346.9 | 347.6 | 347.4 | 347.8 | 348.0 | 348.1 |
| 10.5° | 346.4 | 347.1 | 346.9 | 347.3 | 347.6 | 347.7 |
| 11° | 345.8 | 346.6 | 346.5 | 346.9 | 347.1 | 347.3 |
| 11.5° | 345.2 | 346.1 | 346.1 | 346.5 | 346.5 | 346.8 |
| 12° | 344.6 | 345.5 | 345.4 | 345.9 | 346.1 | 346.3 |
| 12.5° | 344.2 | 345.0 | 344.9 | 345.3 | 345.5 | 345.6 |
| 13° | 343.5 | 344.4 | 344.4 | 344.7 | 344.9 | 345.2 |
| 13.5° | 342.8 | 343.8 | 343.7 | 344.1 | 344.4 | 344.6 |
| 14° | 342.3 | 343.1 | 343.1 | 343.4 | 343.8 | 344.0 |
| 14.5° | 341.6 | 342.5 | 342.4 | 342.7 | 343.1 | 343.3 |
| 15° | 340.9 | 341.8 | 341.8 | 342.0 | 342.5 | 342.7 |
| 15.5° | 340.2 | 341.0 | 341.1 | 341.3 | 341.7 | 342.0 |
| 16° | 339.4 | 340.2 | 340.3 | 340.6 | 341.1 | 341.2 |
| 16.5° | 338.6 | 339.5 | 339.5 | 339.9 | 340.3 | 340.4 |
| 17° | 337.9 | 338.7 | 338.7 | 339.0 | 339.5 | 339.7 |
| 17.5° | 337.0 | 337.8 | 337.8 | 338.2 | 338.7 | 338.9 |
| 18° | 336.2 | 336.9 | 337.0 | 337.3 | 337.8 | 338.0 |
| 18.5° | 335.3 | 336.0 | 336.1 | 336.5 | 336.9 | 337.2 |
| 19° | 334.4 | 335.1 | 335.1 | 335.5 | 335.9 | 336.2 |
| 19.5° | 333.7 | 334.2 | 334.2 | 334.7 | 335.1 | 335.4 |
| 20° | 332.6 | 333.1 | 333.3 | 333.8 | 334.1 | 334.6 |
| 20.5° | 331.5 | 332.1 | 332.2 | 332.7 | 333.2 | 333.5 |
| 21° | 330.4 | 331.0 | 331.0 | 331.6 | 332.2 | 332.4 |
| 21.5° | 329.4 | 329.9 | 330.0 | 330.6 | 331.0 | 331.4 |
| 22° | 328.3 | 328.8 | 328.9 | 329.5 | 329.9 | 330.3 |



TEST NUMBER: P565405
 CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|-------|--------|-------|--------|-------|
| 22.5° | 327.0 | 327.5 | 327.7 | 328.3 | 328.7 | 329.0 |
| 23° | 325.9 | 326.3 | 326.4 | 327.0 | 327.5 | 327.9 |
| 23.5° | 324.6 | 325.0 | 325.1 | 325.8 | 326.2 | 326.7 |
| 24° | 323.3 | 323.7 | 323.9 | 324.5 | 325.0 | 325.5 |
| 24.5° | 321.9 | 322.3 | 322.5 | 323.2 | 323.6 | 324.0 |
| 25° | 320.6 | 320.9 | 321.2 | 321.8 | 322.3 | 322.7 |
| 25.5° | 319.2 | 319.6 | 319.8 | 320.4 | 320.8 | 321.3 |
| 26° | 317.7 | 318.2 | 318.3 | 319.1 | 319.5 | 319.8 |
| 26.5° | 316.3 | 316.6 | 316.8 | 317.6 | 318.1 | 318.3 |
| 27° | 314.7 | 315.1 | 315.3 | 316.1 | 316.5 | 317.0 |
| 27.5° | 313.1 | 313.5 | 313.7 | 314.4 | 314.9 | 315.4 |
| 28° | 311.5 | 311.8 | 312.1 | 312.8 | 313.5 | 313.8 |
| 28.5° | 309.8 | 310.1 | 310.5 | 311.2 | 311.8 | 312.1 |
| 29° | 308.1 | 308.4 | 308.8 | 309.5 | 310.1 | 310.5 |
| 29.5° | 306.4 | 306.7 | 307.0 | 307.8 | 308.4 | 308.8 |
| 30° | 304.6 | 304.9 | 305.3 | 306.0 | 306.7 | 306.9 |
| 30.5° | 302.8 | 302.9 | 303.4 | 304.2 | 304.8 | 305.2 |
| 31° | 300.9 | 301.1 | 301.5 | 302.3 | 303.0 | 303.3 |
| 31.5° | 299.2 | 299.3 | 299.9 | 300.6 | 301.1 | 301.4 |
| 32° | 297.2 | 297.3 | 297.8 | 298.7 | 299.4 | 299.6 |
| 32.5° | 295.1 | 295.3 | 295.9 | 296.7 | 297.4 | 297.7 |
| 33° | 293.1 | 293.3 | 293.8 | 294.6 | 295.4 | 295.7 |
| 33.5° | 291.2 | 291.2 | 291.7 | 292.5 | 293.3 | 293.6 |
| 34° | 288.9 | 289.0 | 289.5 | 290.5 | 291.2 | 291.4 |
| 34.5° | 286.8 | 286.8 | 287.4 | 288.2 | 289.0 | 289.3 |
| 35° | 284.2 | 284.5 | 285.1 | 286.0 | 286.8 | 287.0 |
| 35.5° | 282.1 | 282.2 | 282.9 | 283.8 | 284.6 | 284.8 |
| 36° | 279.9 | 279.9 | 280.6 | 281.6 | 282.4 | 282.5 |
| 36.5° | 277.1 | 277.5 | 278.3 | 279.2 | 279.9 | 280.2 |
| 37° | 275.2 | 275.1 | 275.9 | 277.0 | 277.6 | 277.8 |
| 37.5° | 272.8 | 272.6 | 273.5 | 274.4 | 275.3 | 275.4 |
| 38° | 270.2 | 270.3 | 271.0 | 272.1 | 272.9 | 273.0 |
| 38.5° | 267.9 | 267.8 | 268.6 | 269.6 | 270.3 | 270.5 |
| 39° | 265.3 | 265.5 | 266.1 | 267.2 | 267.9 | 268.0 |
| 39.5° | 263.0 | 262.8 | 263.8 | 264.7 | 265.5 | 265.6 |
| 40° | 260.4 | 260.3 | 261.2 | 262.1 | 262.9 | 263.1 |
| 40.5° | 257.8 | 257.6 | 258.5 | 259.6 | 260.4 | 260.4 |
| 41° | 255.1 | 254.9 | 255.9 | 257.0 | 257.8 | 257.8 |
| 41.5° | 252.4 | 252.5 | 253.3 | 254.2 | 255.0 | 255.2 |
| 42° | 249.8 | 249.6 | 250.6 | 251.7 | 252.3 | 252.4 |
| 42.5° | 247.0 | 247.0 | 248.1 | 249.0 | 249.6 | 249.7 |
| 43° | 244.3 | 244.2 | 245.1 | 246.1 | 247.0 | 247.2 |
| 43.5° | 241.6 | 241.3 | 242.5 | 243.6 | 244.3 | 244.2 |
| 44° | 238.7 | 238.6 | 239.7 | 240.7 | 241.5 | 241.4 |
| 44.5° | 235.9 | 235.8 | 236.9 | 237.9 | 238.7 | 238.7 |



TEST NUMBER: P565405

CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|-------|--------|-------|--------|-------|
| 45° | 233.0 | 233.0 | 234.1 | 235.2 | 236.0 | 235.8 |
| 45.5° | 230.3 | 230.3 | 231.2 | 232.2 | 233.2 | 233.0 |
| 46° | 227.6 | 227.4 | 228.5 | 229.5 | 230.5 | 230.4 |
| 46.5° | 224.7 | 224.5 | 225.7 | 226.7 | 227.5 | 227.5 |
| 47° | 221.7 | 221.7 | 222.8 | 223.7 | 224.5 | 224.6 |
| 47.5° | 218.8 | 218.7 | 219.9 | 220.9 | 221.7 | 221.6 |
| 48° | 215.8 | 215.7 | 217.0 | 217.9 | 218.8 | 218.6 |
| 48.5° | 212.9 | 213.0 | 214.1 | 215.2 | 215.9 | 215.8 |
| 49° | 210.0 | 210.0 | 211.2 | 212.1 | 213.0 | 213.0 |
| 49.5° | 206.9 | 207.1 | 208.3 | 209.3 | 210.1 | 210.0 |
| 50° | 203.9 | 204.1 | 205.2 | 206.2 | 207.1 | 207.1 |
| 50.5° | 200.9 | 201.1 | 202.3 | 203.3 | 204.1 | 204.0 |
| 51° | 197.9 | 198.1 | 199.5 | 200.3 | 201.1 | 201.0 |
| 51.5° | 195.0 | 195.3 | 196.4 | 197.2 | 198.1 | 198.0 |
| 52° | 191.9 | 192.1 | 193.5 | 194.3 | 195.4 | 195.2 |
| 52.5° | 188.8 | 189.3 | 190.6 | 191.2 | 192.3 | 192.1 |
| 53° | 185.8 | 186.1 | 187.5 | 188.3 | 189.4 | 189.0 |
| 53.5° | 182.7 | 183.2 | 184.4 | 185.2 | 186.4 | 186.0 |
| 54° | 179.6 | 180.1 | 181.5 | 182.1 | 183.2 | 183.0 |
| 54.5° | 176.5 | 177.1 | 178.6 | 179.2 | 180.3 | 179.9 |
| 55° | 173.6 | 174.1 | 175.6 | 176.1 | 177.3 | 177.0 |
| 55.5° | 170.5 | 171.0 | 172.5 | 173.0 | 174.3 | 173.9 |
| 56° | 167.5 | 168.0 | 169.5 | 170.1 | 171.3 | 170.9 |
| 56.5° | 164.5 | 165.0 | 166.4 | 167.1 | 168.2 | 167.8 |
| 57° | 161.4 | 162.1 | 163.5 | 164.0 | 165.3 | 164.9 |
| 57.5° | 158.5 | 159.1 | 160.5 | 161.1 | 162.2 | 161.9 |
| 58° | 155.5 | 156.3 | 157.7 | 158.1 | 159.4 | 158.9 |
| 58.5° | 152.6 | 153.3 | 154.6 | 155.3 | 156.4 | 156.0 |
| 59° | 149.6 | 150.1 | 151.6 | 152.2 | 153.3 | 153.1 |
| 59.5° | 146.6 | 147.1 | 148.7 | 149.3 | 150.3 | 150.0 |
| 60° | 143.7 | 144.1 | 145.7 | 146.3 | 147.4 | 147.0 |
| 60.5° | 140.8 | 141.1 | 142.7 | 143.4 | 144.3 | 144.0 |
| 61° | 137.9 | 138.3 | 139.6 | 140.3 | 141.4 | 141.0 |
| 61.5° | 135.0 | 135.2 | 136.5 | 137.6 | 138.4 | 138.1 |
| 62° | 132.1 | 132.2 | 133.7 | 134.6 | 135.4 | 135.1 |
| 62.5° | 129.2 | 129.4 | 130.9 | 131.7 | 132.4 | 132.2 |
| 63° | 126.4 | 126.7 | 127.9 | 128.8 | 129.5 | 129.3 |
| 63.5° | 123.7 | 123.7 | 125.2 | 126.2 | 126.7 | 126.5 |
| 64° | 120.9 | 121.0 | 122.4 | 123.4 | 123.8 | 123.6 |
| 64.5° | 118.1 | 118.0 | 119.5 | 120.5 | 121.1 | 120.8 |
| 65° | 115.2 | 115.2 | 116.7 | 117.7 | 118.1 | 117.9 |
| 65.5° | 112.4 | 112.3 | 113.9 | 115.0 | 115.3 | 115.1 |
| 66° | 109.6 | 109.6 | 110.9 | 112.4 | 112.5 | 112.3 |
| 66.5° | 106.9 | 106.8 | 108.2 | 109.6 | 109.6 | 109.5 |
| 67° | 104.2 | 104.1 | 105.5 | 106.8 | 106.8 | 106.8 |



TEST NUMBER: P565405
 CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|-------|--------|-------|--------|-------|
| 67.5° | 101.3 | 101.3 | 102.7 | 104.0 | 104.1 | 104.0 |
| 68° | 98.7 | 98.7 | 99.9 | 101.4 | 101.3 | 101.2 |
| 68.5° | 96.0 | 96.0 | 97.3 | 98.7 | 98.6 | 98.5 |
| 69° | 93.3 | 93.4 | 94.6 | 95.9 | 95.9 | 95.9 |
| 69.5° | 90.8 | 90.8 | 92.2 | 93.2 | 93.1 | 93.1 |
| 70° | 88.0 | 88.3 | 89.4 | 90.8 | 90.7 | 90.6 |
| 70.5° | 85.5 | 85.6 | 86.9 | 88.2 | 88.0 | 88.1 |
| 71° | 82.8 | 82.9 | 84.2 | 85.5 | 85.3 | 85.4 |
| 71.5° | 80.2 | 80.4 | 81.6 | 82.9 | 82.7 | 82.7 |
| 72° | 77.7 | 77.8 | 79.0 | 80.4 | 80.2 | 80.2 |
| 72.5° | 75.1 | 75.4 | 76.5 | 77.8 | 77.7 | 77.6 |
| 73° | 72.6 | 72.9 | 74.0 | 75.3 | 75.1 | 75.1 |
| 73.5° | 70.0 | 70.5 | 71.5 | 72.8 | 72.6 | 72.6 |
| 74° | 67.6 | 68.0 | 69.0 | 70.4 | 70.1 | 70.1 |
| 74.5° | 65.3 | 65.5 | 66.6 | 67.8 | 67.6 | 67.7 |
| 75° | 62.8 | 63.1 | 64.2 | 65.4 | 65.3 | 65.3 |
| 75.5° | 60.5 | 60.7 | 61.8 | 62.8 | 62.8 | 62.9 |
| 76° | 58.1 | 58.5 | 59.4 | 60.5 | 60.5 | 60.4 |
| 76.5° | 55.9 | 56.3 | 57.3 | 58.1 | 58.2 | 58.1 |
| 77° | 53.6 | 53.9 | 54.9 | 56.0 | 56.0 | 55.9 |
| 77.5° | 51.3 | 51.6 | 52.9 | 53.6 | 53.7 | 53.6 |
| 78° | 49.1 | 49.4 | 50.5 | 51.3 | 51.4 | 51.3 |
| 78.5° | 46.8 | 47.2 | 48.2 | 49.0 | 49.2 | 48.9 |
| 79° | 44.6 | 44.9 | 46.0 | 46.8 | 47.0 | 46.8 |
| 79.5° | 42.5 | 42.7 | 43.9 | 44.5 | 44.8 | 44.6 |
| 80° | 40.3 | 40.6 | 41.6 | 42.5 | 42.5 | 42.3 |
| 80.5° | 38.2 | 38.4 | 39.6 | 40.3 | 40.5 | 40.2 |
| 81° | 36.1 | 36.4 | 37.5 | 38.2 | 38.3 | 37.9 |
| 81.5° | 34.0 | 34.2 | 35.4 | 36.1 | 36.2 | 35.9 |
| 82° | 31.9 | 32.2 | 33.3 | 34.0 | 34.2 | 33.7 |
| 82.5° | 29.9 | 30.2 | 31.2 | 31.9 | 32.1 | 31.6 |
| 83° | 27.8 | 28.0 | 29.2 | 29.8 | 30.0 | 29.5 |
| 83.5° | 25.8 | 26.1 | 27.3 | 27.8 | 28.0 | 27.5 |
| 84° | 24.0 | 24.1 | 25.2 | 25.8 | 26.1 | 25.5 |
| 84.5° | 22.1 | 22.4 | 23.4 | 23.8 | 24.0 | 23.5 |
| 85° | 20.2 | 20.4 | 21.5 | 22.0 | 22.2 | 21.6 |
| 85.5° | 18.4 | 18.6 | 19.5 | 20.0 | 20.2 | 19.7 |
| 86° | 16.5 | 16.6 | 17.7 | 18.1 | 18.3 | 17.7 |
| 86.5° | 14.6 | 14.7 | 15.7 | 16.3 | 16.3 | 15.9 |
| 87° | 12.8 | 13.0 | 14.0 | 14.4 | 14.4 | 14.0 |
| 87.5° | 11.0 | 11.1 | 12.1 | 12.5 | 12.7 | 12.1 |
| 88° | 9.3 | 9.4 | 10.3 | 10.7 | 10.8 | 10.3 |
| 88.5° | 7.5 | 7.6 | 8.5 | 8.9 | 9.0 | 8.4 |
| 89° | 5.7 | 5.9 | 6.7 | 7.1 | 7.1 | 6.6 |
| 89.5° | 4.1 | 4.1 | 4.9 | 5.4 | 5.5 | 4.8 |



TEST NUMBER: P565405
 CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|--------|--------|------|--------|------|--------|------|
| 90° | 2.3 | 2.5 | 3.1 | 3.6 | 3.6 | 3.1 |
| 90.5° | 0.8 | 1.1 | 1.6 | 2.0 | 2.0 | 1.6 |
| 91° | 0.0 | 0.4 | 0.6 | 0.8 | 0.8 | 0.5 |
| 91.5° | 0.0 | 0.2 | 0.4 | 0.3 | 0.3 | 0.1 |
| 92° | 0.0 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 |
| 92.5° | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 93° | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 93.5° | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 94° | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 |
| 94.5° | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 |
| 95° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 |
| 95.5° | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 |
| 96° | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 96.5° | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 97° | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 97.5° | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 98° | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 98.5° | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 99° | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 99.5° | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 100° | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 100.5° | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 101° | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 101.5° | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 102° | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 102.5° | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 103° | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 103.5° | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 104° | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 104.5° | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 105° | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 105.5° | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 106° | 0.2 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 106.5° | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 107° | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 107.5° | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 108° | 0.2 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 108.5° | 0.2 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 109° | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 109.5° | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 110° | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 110.5° | 0.2 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 111° | 0.2 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 111.5° | 0.2 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 112° | 0.2 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |



TEST NUMBER: P565405
 CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|--------|--------|------|--------|------|--------|------|
| 112.5° | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 113° | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 113.5° | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 114° | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 114.5° | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 115° | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 115.5° | 0.3 | 0.2 | 0.0 | 0.0 | 0.1 | 0.0 |
| 116° | 0.3 | 0.2 | 0.0 | 0.0 | 0.1 | 0.0 |
| 116.5° | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 117° | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 117.5° | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 118° | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 118.5° | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 119° | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 119.5° | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 120° | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 120.5° | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 121° | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 121.5° | 0.4 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 |
| 122° | 0.4 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 122.5° | 0.4 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| 123° | 0.4 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 |
| 123.5° | 0.4 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 |
| 124° | 0.4 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 |
| 124.5° | 0.4 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 |
| 125° | 0.4 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 |
| 125.5° | 0.5 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 |
| 126° | 0.5 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 |
| 126.5° | 0.5 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 |
| 127° | 0.5 | 0.2 | 0.1 | 0.0 | 0.1 | 0.1 |
| 127.5° | 0.5 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 |
| 128° | 0.5 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 |
| 128.5° | 0.5 | 0.2 | 0.1 | 0.0 | 0.1 | 0.1 |
| 129° | 0.5 | 0.3 | 0.1 | 0.0 | 0.1 | 0.1 |
| 129.5° | 0.5 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 |
| 130° | 0.5 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 |
| 130.5° | 0.5 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 |
| 131° | 0.5 | 0.3 | 0.3 | 0.1 | 0.1 | 0.2 |
| 131.5° | 0.5 | 0.3 | 0.3 | 0.1 | 0.1 | 0.2 |
| 132° | 0.5 | 0.3 | 0.3 | 0.1 | 0.2 | 0.2 |
| 132.5° | 0.5 | 0.3 | 0.3 | 0.1 | 0.1 | 0.2 |
| 133° | 0.5 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 |
| 133.5° | 0.5 | 0.3 | 0.4 | 0.2 | 0.4 | 0.3 |
| 134° | 0.6 | 0.5 | 0.4 | 0.3 | 0.3 | 0.3 |
| 134.5° | 0.6 | 0.5 | 0.4 | 0.4 | 0.3 | 0.4 |



TEST NUMBER: P565405
 CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|--------|--------|------|--------|------|--------|------|
| 135° | 0.6 | 0.5 | 0.4 | 0.5 | 0.5 | 0.8 |
| 135.5° | 0.7 | 0.5 | 0.4 | 0.5 | 0.5 | 0.8 |
| 136° | 0.6 | 0.5 | 0.5 | 0.5 | 1.0 | 0.8 |
| 136.5° | 0.6 | 0.5 | 0.5 | 0.5 | 1.0 | 0.8 |
| 137° | 0.6 | 0.5 | 0.7 | 0.5 | 0.9 | 0.8 |
| 137.5° | 0.6 | 0.5 | 0.7 | 0.5 | 0.9 | 0.8 |
| 138° | 0.6 | 0.5 | 0.6 | 0.5 | 0.9 | 0.8 |
| 138.5° | 0.6 | 0.5 | 0.6 | 0.7 | 0.9 | 0.8 |
| 139° | 0.7 | 0.5 | 0.6 | 0.7 | 0.9 | 0.8 |
| 139.5° | 0.7 | 0.5 | 0.6 | 0.7 | 0.9 | 0.8 |
| 140° | 0.7 | 0.5 | 0.6 | 0.7 | 0.9 | 0.8 |
| 140.5° | 0.7 | 0.6 | 0.7 | 0.7 | 0.9 | 0.8 |
| 141° | 0.7 | 0.6 | 0.7 | 0.7 | 0.9 | 0.8 |
| 141.5° | 0.7 | 0.6 | 0.7 | 0.7 | 0.9 | 0.8 |
| 142° | 0.7 | 0.6 | 0.7 | 0.8 | 0.9 | 0.8 |
| 142.5° | 0.7 | 0.7 | 0.7 | 0.7 | 0.9 | 0.8 |
| 143° | 0.7 | 0.7 | 0.7 | 0.7 | 0.9 | 0.8 |
| 143.5° | 0.7 | 0.7 | 0.7 | 0.9 | 0.9 | 0.8 |
| 144° | 0.8 | 0.8 | 0.7 | 0.9 | 0.9 | 0.8 |
| 144.5° | 0.8 | 1.2 | 0.7 | 0.8 | 0.9 | 0.8 |
| 145° | 0.7 | 1.1 | 0.7 | 0.8 | 0.9 | 0.8 |
| 145.5° | 0.8 | 1.1 | 0.7 | 0.8 | 0.9 | 0.8 |
| 146° | 0.8 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 146.5° | 0.8 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 147° | 0.8 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 147.5° | 0.8 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 148° | 0.8 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 148.5° | 0.8 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 149° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 149.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 150° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 150.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 151° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 151.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 152° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 152.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 153° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 153.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 154° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 154.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 155° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 155.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 156° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 156.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 157° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |



TEST NUMBER: P565405
CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|--------|--------|------|--------|------|--------|------|
| 157.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 158° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 158.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 159° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 159.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 160° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 160.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 161° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 161.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 162° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 162.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 163° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 163.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 164° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 164.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 165° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 165.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 166° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 166.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 167° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 167.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 168° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 168.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 169° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 169.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 170° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 170.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 171° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 171.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 172° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 172.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 173° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 173.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 174° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 174.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 175° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 175.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 176° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 176.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 177° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 177.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 178° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 178.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 179° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |
| 179.5° | 0.9 | 1.0 | 0.7 | 0.8 | 0.9 | 0.8 |



TEST NUMBER: P565405
CATALOG NUMBER: HLBQL6069FS1E-5000K-UNIT

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|------|--------|------|--------|------|--------|------|
| 180° | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |

(END OF REPORT)