

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO COMMERCIAL

Report Number: P776340

Luminaire Tested: HCDJBL3040CSD-HCD61TRH-4000lm-2700K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776340
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B036)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD61TRH-4000lm-2700K
Description: 6 INCH ROUND SHALLOW-WIDE HAZE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT
Ballast/Driver: -

Summary

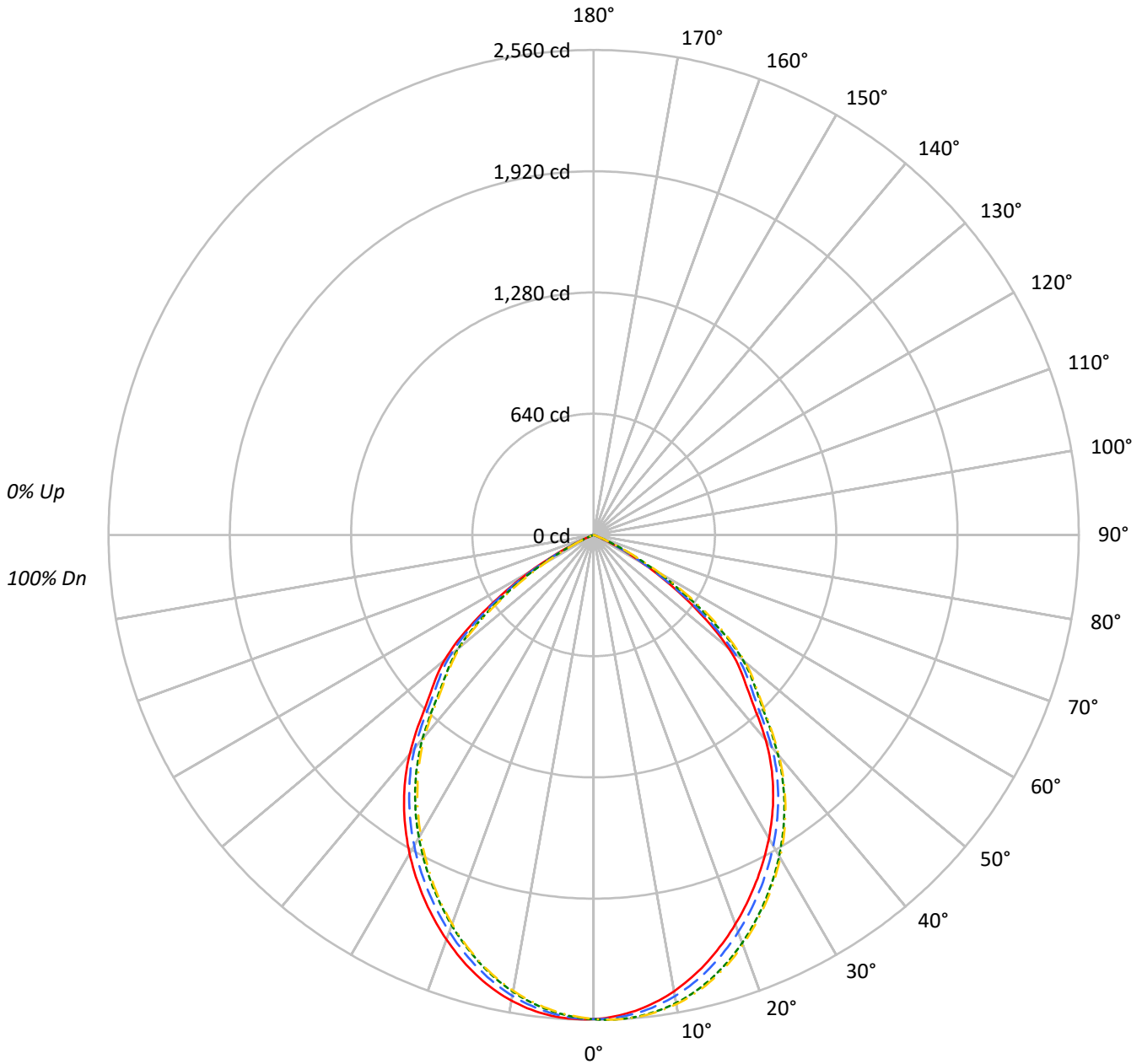
Lumens per Lamp: N/A
Luminaire Lumens: 4565.2 lumens
Efficiency: N/A
Efficacy: 118.6 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.12 / 1.2
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): 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: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	112	108	105	103	109	106	103	101	102	100	98	98	97	95	95	93	92	90								
2	104	98	93	89	102	96	91	87	93	89	86	90	87	84	87	84	82	80								
3	97	89	82	77	95	87	81	76	84	79	75	82	77	74	79	76	73	71								
4	90	80	73	68	88	79	72	67	77	71	66	74	70	65	72	68	65	63								
5	84	73	65	60	82	72	65	60	70	64	59	68	63	58	66	62	58	56								
6	78	67	59	53	76	66	58	53	64	58	53	62	57	52	61	56	52	50								
7	73	61	53	48	71	60	53	48	59	52	48	57	52	47	56	51	47	45								
8	68	56	49	43	67	55	48	43	54	48	43	53	47	43	52	47	43	41								
9	64	52	45	40	63	51	44	39	50	44	39	49	43	39	48	43	39	37								
10	60	48	41	36	59	48	41	36	47	40	36	46	40	36	45	40	36	34								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	140131	140131	140131	140131
5°	138768	140524	140204	138851
10°	136120	139643	138981	136354
15°	132243	137322	136363	132572
20°	127557	133694	132551	127849
25°	122505	129147	128076	122572
30°	117094	123924	122975	116777
35°	110510	117370	116754	109894
40°	101111	108253	108088	100531
45°	88970	96444	96111	88343
50°	79145	87750	87426	79503
55°	58349	67553	68031	59926
60°	33342	41630	42639	35776
65°	9612	15644	14736	12505
70°	240	369	240	737
75°	169	169	169	169
80°	126	126	126	126
85°	252	0	0	252

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 135°
 Vertical Angle: 45°
 Luminance: 97367 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	240.1	5.3
10°-20°	667.2	14.6
20°-30°	954.5	20.9
30°-40°	1056.6	23.1
40°-50°	928.3	20.3
50°-60°	591.1	12.9
60°-70°	125.8	2.8
70°-80°	1.0	0.0
80°-90°	0.5	0.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1861.9	40.8
0°-40°	2918.4	63.9
0°-60°	4437.8	97.2
0°-90°	4565.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4565.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2556	2556	2556	2556	2556	
5°	2522	2554	2548	2523	2522	238
15°	2330	2420	2403	2336	2330	655
25°	2025	2135	2117	2026	2025	932
35°	1651	1754	1745	1642	1651	1028
45°	1148	1244	1240	1140	1148	892
55°	610	707	712	627	610	544
65°	74	121	114	96	74	99
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	0	0	2	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2556.2	2556.2	2556.2	2556.2	2556.2	2556.2	2556.2	2556.2	2556.2	2556.2	2556.2
0.5°	2554.3	2555.5	2556.6	2556.2	2558.9	2558.5	2557.4	2557.0	2557.0	2557.0	2556.6
1°	2552.4	2553.9	2556.2	2556.2	2559.7	2559.7	2558.5	2558.2	2557.8	2557.0	2555.9
1.5°	2550.1	2552.4	2555.1	2556.2	2560.5	2560.8	2559.7	2558.9	2557.8	2556.6	2554.7
2°	2547.0	2550.1	2553.6	2555.5	2560.5	2561.2	2560.5	2559.3	2557.8	2555.5	2553.2
2.5°	2544.0	2547.4	2551.6	2554.3	2560.5	2561.6	2560.5	2559.3	2557.0	2554.3	2551.2
3°	2540.5	2544.3	2549.3	2553.2	2559.7	2561.2	2560.5	2558.5	2556.2	2552.8	2548.9
3.5°	2536.3	2540.9	2546.6	2551.2	2558.9	2560.5	2560.1	2557.8	2554.7	2550.5	2545.9
4°	2531.7	2537.0	2543.6	2548.9	2557.4	2559.7	2558.9	2556.6	2552.8	2548.2	2542.4
4.5°	2526.7	2532.8	2539.7	2545.9	2555.9	2558.5	2557.8	2555.1	2550.5	2545.1	2539.0
5°	2521.7	2527.8	2535.5	2542.8	2553.6	2556.6	2555.9	2552.8	2547.8	2541.7	2535.1
5.5°	2515.9	2522.5	2530.9	2539.3	2551.2	2554.3	2553.9	2550.5	2544.3	2537.8	2530.5
6°	2509.4	2516.7	2526.3	2535.5	2548.2	2552.0	2551.2	2547.4	2540.9	2533.2	2525.1
6.5°	2503.3	2510.6	2520.9	2530.9	2544.7	2548.9	2548.2	2544.0	2537.0	2528.6	2520.2
7°	2496.3	2504.0	2515.2	2525.9	2540.9	2545.5	2544.7	2540.1	2532.8	2523.6	2514.4
7.5°	2488.7	2497.1	2509.0	2520.5	2536.3	2541.7	2540.9	2535.9	2527.8	2517.8	2507.9
8°	2481.0	2489.4	2502.1	2514.8	2532.1	2537.4	2536.7	2530.9	2522.5	2512.1	2501.3
8.5°	2472.5	2481.8	2495.2	2509.0	2526.7	2532.8	2532.1	2525.9	2516.7	2505.6	2494.0
9°	2464.1	2473.3	2487.9	2502.1	2520.9	2527.4	2526.7	2520.2	2510.2	2498.7	2486.4
9.5°	2454.9	2464.9	2479.8	2495.2	2514.8	2522.1	2520.9	2514.4	2503.6	2491.4	2478.7
10°	2445.3	2455.3	2471.4	2487.9	2508.6	2515.9	2515.2	2507.9	2496.7	2483.7	2470.2
10.5°	2435.3	2445.7	2462.9	2479.8	2501.7	2509.4	2508.6	2501.0	2489.4	2475.6	2461.4
11°	2424.9	2436.1	2453.7	2471.4	2494.4	2502.5	2501.7	2493.3	2481.0	2467.2	2452.2
11.5°	2414.2	2425.7	2444.1	2462.6	2486.4	2494.8	2494.0	2485.6	2472.5	2458.0	2442.6
12°	2403.4	2415.0	2434.5	2453.3	2478.3	2487.1	2486.4	2477.2	2464.1	2448.4	2432.6
12.5°	2391.9	2404.2	2424.2	2444.1	2469.5	2478.7	2477.9	2468.7	2454.9	2438.8	2422.2
13°	2380.0	2393.1	2413.4	2434.1	2460.3	2470.2	2469.1	2459.5	2444.9	2428.4	2411.5
13.5°	2368.1	2381.2	2402.3	2423.8	2450.7	2461.0	2459.9	2449.9	2435.3	2418.0	2400.7
14°	2355.8	2369.3	2391.1	2412.6	2440.7	2451.4	2450.3	2439.9	2424.6	2406.9	2389.2
14.5°	2343.2	2356.6	2379.2	2402.3	2430.3	2441.1	2439.9	2429.5	2413.4	2395.8	2376.9
15°	2330.1	2343.9	2367.3	2390.4	2419.6	2430.7	2429.5	2418.4	2402.7	2383.9	2365.0
15.5°	2317.0	2331.3	2354.7	2378.9	2408.4	2419.6	2418.4	2407.3	2391.1	2372.0	2352.8
16°	2303.2	2317.8	2342.0	2365.8	2396.9	2408.8	2406.9	2395.8	2378.5	2359.7	2339.7
16.5°	2289.8	2304.4	2329.3	2354.3	2384.6	2396.9	2395.0	2383.9	2366.6	2347.0	2326.6
17°	2275.2	2290.6	2315.9	2341.2	2372.3	2385.0	2383.1	2371.6	2353.9	2334.3	2313.6
17.5°	2261.0	2276.7	2302.1	2327.8	2359.7	2372.0	2370.8	2358.5	2341.2	2320.9	2300.2
18°	2246.4	2262.5	2288.6	2314.0	2346.6	2359.3	2357.4	2345.5	2327.8	2307.5	2285.6
18.5°	2231.8	2247.9	2274.4	2300.9	2333.2	2345.8	2344.3	2332.4	2314.0	2293.6	2272.1
19°	2216.8	2233.7	2260.2	2286.7	2319.4	2332.4	2330.9	2318.6	2300.5	2279.8	2257.5
19.5°	2202.3	2219.1	2245.6	2272.9	2305.5	2318.6	2317.0	2305.1	2286.3	2265.6	2243.3
20°	2186.5	2203.8	2230.7	2257.9	2291.7	2304.4	2302.8	2290.9	2272.1	2251.0	2228.4
20.5°	2171.2	2188.4	2215.7	2242.9	2276.7	2290.2	2288.6	2276.4	2257.9	2236.4	2213.8
21°	2155.4	2173.5	2200.7	2228.4	2262.1	2275.2	2273.7	2261.8	2242.9	2221.4	2198.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2107.4	2126.2	2153.9	2181.5	2216.1	2229.1	2228.0	2215.7	2197.6	2175.4	2151.6
23°	2091.7	2110.5	2137.8	2165.8	2199.9	2213.4	2212.2	2200.3	2181.9	2159.6	2135.1
23.5°	2075.2	2094.4	2121.6	2149.7	2184.2	2197.6	2196.1	2184.6	2165.8	2143.9	2119.3
24°	2058.7	2077.9	2104.7	2133.1	2168.5	2181.5	2180.4	2168.1	2150.0	2127.8	2102.8
24.5°	2042.2	2061.3	2088.6	2117.0	2152.0	2164.2	2163.9	2151.6	2133.5	2110.9	2086.7
25°	2025.3	2044.8	2071.7	2099.7	2135.1	2147.7	2147.0	2135.1	2117.4	2094.8	2069.8
25.5°	2008.7	2028.3	2055.2	2083.2	2118.2	2130.8	2130.1	2118.6	2100.9	2077.9	2053.3
26°	1991.5	2011.8	2038.3	2066.3	2101.3	2113.2	2112.8	2102.0	2084.0	2061.0	2036.0
26.5°	1974.2	1994.5	2020.7	2049.1	2084.0	2096.3	2095.9	2084.8	2066.7	2043.7	2019.1
27°	1957.3	1977.7	2003.4	2031.8	2066.7	2078.2	2078.6	2066.7	2049.8	2026.4	2001.8
27.5°	1939.6	1960.4	1986.1	2013.4	2048.7	2060.6	2061.0	2049.4	2032.6	2009.1	1984.2
28°	1922.0	1942.7	1968.1	1995.7	2031.0	2043.3	2042.5	2032.2	2014.9	1991.5	1966.1
28.5°	1903.9	1924.7	1950.0	1977.3	2012.6	2024.1	2024.1	2014.1	1997.2	1973.4	1948.9
29°	1885.9	1907.4	1932.0	1959.2	1994.5	2005.7	2006.1	1995.3	1979.2	1955.4	1930.8
29.5°	1867.8	1889.0	1913.9	1940.4	1976.1	1986.9	1987.6	1976.9	1961.1	1937.3	1912.8
30°	1849.8	1870.9	1895.5	1922.0	1957.7	1968.8	1968.4	1958.8	1942.7	1918.9	1894.0
30.5°	1830.6	1852.5	1876.7	1903.6	1937.7	1948.9	1948.9	1940.0	1923.5	1900.1	1875.1
31°	1811.4	1833.7	1857.9	1884.0	1918.9	1929.3	1930.0	1920.1	1905.1	1881.7	1856.7
31.5°	1792.6	1814.9	1838.3	1864.4	1898.9	1909.7	1910.1	1901.2	1885.5	1862.5	1837.9
32°	1773.4	1796.0	1819.1	1844.8	1879.4	1890.5	1890.1	1881.7	1866.7	1842.9	1818.7
32.5°	1753.8	1776.1	1799.5	1825.2	1859.4	1869.8	1869.4	1862.1	1847.1	1823.7	1798.7
33°	1733.9	1756.5	1779.5	1805.3	1839.0	1849.0	1849.8	1841.7	1827.1	1804.1	1779.2
33.5°	1713.9	1736.2	1759.6	1784.5	1817.9	1828.3	1828.7	1821.4	1806.4	1784.5	1759.6
34°	1693.2	1716.2	1739.2	1764.6	1797.2	1808.0	1807.6	1800.7	1786.1	1763.8	1739.2
34.5°	1672.4	1695.8	1718.5	1742.7	1776.1	1785.3	1786.1	1779.2	1765.3	1743.1	1718.9
35°	1651.3	1674.7	1697.8	1721.6	1753.8	1764.2	1764.6	1757.7	1744.6	1722.7	1697.8
35.5°	1629.4	1653.6	1676.6	1699.7	1732.3	1741.5	1742.3	1736.2	1722.7	1702.0	1676.6
36°	1607.5	1632.5	1654.8	1677.8	1710.0	1719.6	1720.0	1714.3	1701.6	1680.9	1656.3
36.5°	1584.9	1609.8	1632.9	1655.1	1687.8	1695.8	1697.4	1691.2	1679.3	1658.6	1634.8
37°	1562.6	1587.2	1610.6	1632.5	1663.6	1672.8	1673.6	1668.2	1657.4	1636.7	1612.5
37.5°	1539.6	1563.8	1587.6	1609.5	1640.2	1648.2	1649.4	1644.8	1634.0	1614.8	1590.3
38°	1515.4	1540.7	1564.2	1584.9	1616.0	1624.0	1625.6	1620.6	1610.2	1591.8	1568.8
38.5°	1491.2	1516.5	1540.0	1560.3	1591.0	1599.5	1601.0	1595.6	1586.8	1568.4	1544.6
39°	1465.9	1492.0	1515.0	1535.7	1565.7	1573.4	1575.3	1570.7	1562.6	1544.6	1520.4
39.5°	1439.8	1464.7	1488.5	1508.9	1539.2	1547.3	1549.2	1545.0	1537.3	1519.2	1494.7
40°	1412.9	1437.8	1460.9	1481.6	1512.7	1520.8	1522.3	1518.8	1510.4	1493.5	1470.5
40.5°	1383.7	1409.4	1432.8	1453.6	1484.3	1492.7	1495.4	1491.6	1483.5	1466.6	1442.4
41°	1355.7	1381.0	1404.4	1425.6	1456.7	1465.1	1467.0	1463.6	1456.3	1438.6	1414.4
41.5°	1328.0	1352.6	1376.0	1397.5	1429.0	1437.1	1439.8	1435.5	1427.9	1409.8	1386.0
42°	1300.0	1324.2	1347.6	1369.1	1401.0	1410.6	1412.9	1409.0	1400.6	1382.9	1359.9
42.5°	1269.3	1294.2	1318.0	1339.9	1373.0	1382.2	1385.2	1381.8	1373.0	1355.3	1331.1
43°	1241.6	1266.2	1290.4	1311.9	1344.2	1353.8	1356.8	1352.6	1344.2	1325.7	1302.7
43.5°	1215.9	1240.1	1264.3	1285.8	1317.3	1326.9	1329.6	1324.6	1314.6	1296.2	1273.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1147.6	1171.4	1194.4	1214.8	1244.0	1253.2	1255.9	1250.5	1239.7	1220.9	1199.0
45.5°	1126.1	1150.3	1173.3	1193.3	1221.7	1230.5	1233.2	1227.8	1217.1	1199.0	1176.8
46°	1106.1	1130.3	1152.6	1172.5	1200.2	1208.6	1211.3	1205.9	1195.6	1177.5	1155.6
46.5°	1086.2	1110.3	1132.2	1151.8	1179.1	1187.9	1190.6	1185.6	1174.8	1156.8	1134.9
47°	1066.6	1090.4	1112.6	1131.8	1158.3	1167.2	1169.9	1164.9	1154.1	1136.8	1115.3
47.5°	1047.0	1070.8	1092.7	1111.9	1138.0	1147.2	1149.9	1144.1	1133.8	1116.9	1095.4
48°	1027.0	1050.8	1071.9	1091.9	1117.6	1127.2	1129.5	1124.2	1114.2	1097.3	1075.8
48.5°	1004.8	1028.2	1050.4	1070.8	1097.7	1107.3	1110.0	1105.0	1094.2	1077.3	1056.2
49°	980.6	1002.5	1025.1	1047.4	1075.8	1086.2	1089.6	1084.2	1072.7	1055.1	1034.7
49.5°	956.0	976.7	999.8	1022.8	1052.8	1063.9	1067.0	1060.8	1049.3	1030.9	1010.1
50°	928.0	947.9	971.0	995.9	1028.9	1041.2	1044.3	1037.8	1025.1	1006.7	985.9
50.5°	898.4	918.8	942.6	968.3	1002.8	1015.5	1018.2	1013.6	999.8	981.3	959.1
51°	868.1	889.2	911.5	938.3	974.8	986.3	990.6	985.9	972.9	953.3	931.4
51.5°	837.4	858.1	880.7	906.9	945.2	957.5	962.9	956.4	944.9	924.5	902.6
52°	805.9	826.2	848.5	873.8	913.0	927.6	933.0	926.8	914.5	894.6	873.1
52.5°	774.0	794.0	817.0	840.4	880.0	896.9	902.2	896.1	882.3	863.1	842.7
53°	741.4	761.3	782.8	805.5	845.8	865.0	871.9	863.9	848.1	830.1	812.0
53.5°	708.7	727.9	749.8	770.6	811.3	833.1	841.2	832.4	814.7	797.8	779.8
54°	675.7	694.5	714.9	734.9	776.3	799.4	809.0	797.8	780.5	764.0	747.1
54.5°	643.1	662.7	680.3	699.9	741.8	766.0	775.5	764.0	745.6	730.2	714.1
55°	610.5	628.9	645.0	664.6	706.8	733.3	743.3	731.0	711.8	696.5	681.9
55.5°	577.4	595.5	610.8	629.7	673.0	698.8	710.7	697.2	678.8	661.9	648.1
56°	545.2	561.7	576.3	593.9	638.1	664.2	676.1	661.9	644.6	627.0	614.7
56.5°	513.3	529.4	541.3	559.8	603.9	630.8	642.3	628.5	611.2	592.8	581.3
57°	481.8	496.0	506.8	525.6	569.8	595.5	608.2	595.1	577.8	559.4	548.6
57.5°	450.4	463.8	473.8	493.0	537.5	562.1	574.8	562.5	546.0	526.0	514.9
58°	419.6	431.5	441.5	460.0	504.9	527.9	540.2	529.1	513.3	492.6	482.6
58.5°	389.7	400.4	409.3	428.9	473.4	495.3	506.4	497.2	482.6	461.1	451.1
59°	360.1	369.0	377.8	397.8	441.5	462.3	472.6	464.6	450.7	430.0	419.3
59.5°	332.5	339.4	347.8	367.0	410.4	430.4	439.2	434.2	419.3	400.1	388.9
60°	304.1	309.1	318.3	337.9	379.7	398.5	407.0	402.0	388.9	372.0	360.1
60.5°	276.8	281.0	289.9	309.5	350.9	369.0	376.6	372.8	360.5	344.0	331.7
61°	250.7	253.4	261.8	280.7	322.5	339.4	346.3	344.0	332.1	316.0	303.3
61.5°	225.4	227.7	235.7	255.7	293.7	309.8	316.0	314.8	303.7	288.0	274.9
62°	200.4	201.9	211.2	229.6	264.9	280.3	285.6	285.6	275.3	259.9	246.5
62.5°	177.4	178.1	187.0	205.0	238.0	250.7	255.3	256.5	246.9	234.6	221.5
63°	154.7	155.1	164.7	182.0	212.3	223.8	228.1	229.6	217.7	210.4	197.3
63.5°	131.7	134.4	142.8	159.7	187.4	197.3	201.9	203.1	190.4	187.0	174.7
64°	112.5	117.5	125.9	138.2	163.9	173.2	177.4	178.5	163.9	164.3	153.2
64.5°	93.3	101.0	109.0	120.9	141.3	149.7	154.0	154.3	138.2	143.2	132.8
65°	74.1	84.8	92.1	103.7	120.6	127.5	132.1	132.1	113.6	122.5	114.0
65.5°	54.9	68.3	75.3	86.4	100.6	107.1	111.3	110.6	91.8	103.7	97.1
66°	40.3	51.8	58.4	69.1	82.2	87.9	92.1	90.6	71.4	85.6	80.2



TEST NUMBER: P776340

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	12.7	21.9	25.3	28.0	43.0	46.5	49.9	48.8	32.6	47.6	44.9
68°	10.0	15.0	17.7	18.8	31.9	34.6	37.2	36.9	19.6	36.5	34.9
68.5°	7.3	11.5	10.8	11.9	20.3	22.7	25.0	25.0	6.5	25.3	24.6
69°	4.6	8.4	8.4	9.2	9.2	11.1	12.7	13.1	3.1	14.6	14.6
69.5°	1.9	5.0	6.1	6.5	4.6	5.8	6.5	7.3	1.9	8.8	8.4
70°	1.5	1.9	3.8	3.8	2.3	2.7	3.1	3.5	1.5	4.6	4.6
70.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.9	1.5	2.3	2.3
71°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
71.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.5	1.5	1.5
72°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.5	1.5
72.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
73°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
73.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
74°	0.8	0.8	1.2	0.8	0.8	0.8	0.8	0.8	0.8	1.2	1.2
74.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.2
75°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
75.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
76°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
76.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
77°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
77.5°	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4	0.4	0.8	0.8
78°	0.8	0.4	0.8	0.4	0.4	0.4	0.4	0.4	0.4	0.8	0.8
78.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
79°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
79.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
80°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
80.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
81°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
81.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
82°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
82.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
83°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
83.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
84°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.4	0.4
84.5°	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.4	0.4
85°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4
85.5°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4
86°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4
86.5°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4
87°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4
87.5°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4
88°	0.4	0.8	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4
88.5°	0.4	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.4	0.4



TEST NUMBER: P776340

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.4	1.2	1.2	0.8	0.4	0.0	0.0	0.4	0.0	0.8	0.4



TEST NUMBER: P776340

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2556.2	2556.2	2556.2	2556.2	2556.2	2556.2
0.5°	2554.7	2555.9	2554.7	2553.2	2553.6	2554.3
1°	2553.6	2553.9	2552.4	2550.9	2551.2	2552.4
1.5°	2551.6	2551.2	2549.3	2547.8	2548.2	2550.1
2°	2549.7	2548.6	2546.3	2544.7	2545.5	2547.0
2.5°	2547.0	2545.1	2542.8	2540.9	2541.7	2544.0
3°	2544.0	2541.7	2539.0	2537.0	2537.8	2540.5
3.5°	2540.9	2537.4	2534.7	2532.8	2533.6	2536.3
4°	2537.0	2533.2	2530.1	2528.2	2529.0	2531.7
4.5°	2532.8	2528.2	2525.1	2522.8	2524.0	2526.7
5°	2528.2	2523.2	2520.2	2517.8	2518.6	2521.7
5.5°	2523.2	2517.5	2514.4	2511.7	2512.5	2515.9
6°	2517.8	2511.7	2508.2	2505.9	2506.3	2509.4
6.5°	2511.7	2505.6	2502.1	2499.4	2499.4	2503.3
7°	2505.6	2498.7	2495.2	2492.5	2492.9	2496.3
7.5°	2499.0	2491.4	2487.9	2485.2	2485.6	2488.7
8°	2491.7	2484.1	2480.2	2477.5	2477.5	2481.0
8.5°	2484.1	2476.0	2472.5	2469.5	2469.5	2472.5
9°	2476.0	2467.6	2464.1	2461.4	2460.6	2464.1
9.5°	2467.6	2458.7	2455.3	2452.6	2451.8	2454.9
10°	2458.7	2449.5	2446.1	2443.4	2442.2	2445.3
10.5°	2449.5	2439.9	2436.5	2433.8	2432.6	2435.3
11°	2439.5	2429.9	2426.5	2423.8	2422.2	2424.9
11.5°	2429.5	2419.2	2416.1	2413.4	2411.9	2414.2
12°	2419.6	2408.8	2405.4	2402.7	2400.7	2403.4
12.5°	2408.4	2397.3	2394.2	2391.5	2389.6	2391.9
13°	2397.3	2385.8	2383.1	2380.4	2377.7	2380.0
13.5°	2385.4	2373.5	2371.2	2368.1	2365.8	2368.1
14°	2373.5	2361.2	2358.9	2355.8	2353.5	2355.8
14.5°	2361.6	2348.9	2346.6	2343.5	2340.9	2343.2
15°	2348.5	2335.9	2333.6	2330.5	2327.4	2330.1
15.5°	2335.5	2322.8	2320.1	2317.4	2314.4	2317.0
16°	2322.4	2309.0	2306.3	2303.6	2300.9	2303.2
16.5°	2309.0	2295.2	2292.9	2290.2	2286.7	2289.8
17°	2295.5	2281.3	2278.7	2276.0	2272.9	2275.2
17.5°	2281.7	2266.8	2264.1	2261.4	2257.9	2261.0
18°	2267.1	2252.2	2249.5	2246.8	2243.3	2246.4
18.5°	2252.5	2237.2	2234.1	2231.8	2228.4	2231.8
19°	2237.6	2222.2	2219.1	2216.5	2213.4	2216.8
19.5°	2223.0	2207.2	2203.8	2201.1	2198.0	2202.3
20°	2208.0	2191.5	2187.7	2185.0	2182.3	2186.5
20.5°	2192.7	2175.8	2171.9	2169.2	2166.5	2171.2
21°	2177.3	2159.3	2155.8	2152.7	2150.4	2155.4

TEST NUMBER: P776340

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2129.7	2110.9	2105.9	2102.8	2101.7	2107.4
23°	2113.6	2094.0	2089.0	2084.8	2085.2	2091.7
23.5°	2097.4	2077.1	2071.7	2068.3	2068.3	2075.2
24°	2080.9	2060.2	2054.1	2050.2	2051.4	2058.7
24.5°	2064.0	2043.3	2036.8	2032.9	2033.7	2042.2
25°	2047.5	2026.4	2018.7	2014.5	2016.4	2025.3
25.5°	2030.6	2009.1	2001.1	1997.2	1999.5	2008.7
26°	2013.4	1991.5	1982.6	1978.0	1981.9	1991.5
26.5°	1996.1	1973.4	1965.0	1960.4	1964.2	1974.2
27°	1978.8	1955.8	1946.2	1941.6	1946.2	1957.3
27.5°	1961.5	1937.7	1927.7	1922.7	1927.7	1939.6
28°	1943.9	1919.3	1908.9	1903.9	1909.3	1922.0
28.5°	1925.8	1900.9	1890.1	1884.7	1890.9	1903.9
29°	1907.8	1882.4	1870.9	1865.2	1872.5	1885.9
29.5°	1889.7	1863.6	1851.7	1846.0	1853.3	1867.8
30°	1871.3	1844.8	1831.8	1826.8	1834.1	1849.8
30.5°	1852.5	1825.6	1812.2	1806.8	1814.9	1830.6
31°	1834.1	1806.0	1792.2	1786.5	1795.3	1811.4
31.5°	1814.5	1786.5	1772.2	1766.5	1775.3	1792.6
32°	1794.9	1766.9	1751.5	1746.1	1755.7	1773.4
32.5°	1775.7	1746.9	1731.2	1725.8	1735.4	1753.8
33°	1755.7	1726.2	1710.8	1705.4	1715.0	1733.9
33.5°	1735.8	1705.4	1690.1	1684.3	1694.7	1713.9
34°	1715.0	1684.7	1669.4	1663.2	1674.0	1693.2
34.5°	1694.3	1663.6	1647.5	1642.1	1652.8	1672.4
35°	1673.6	1642.1	1626.0	1620.6	1631.3	1651.3
35.5°	1652.5	1620.2	1604.8	1599.1	1609.8	1629.4
36°	1631.3	1597.9	1582.6	1577.2	1588.0	1607.5
36.5°	1609.1	1575.7	1560.7	1554.9	1566.1	1584.9
37°	1586.4	1552.6	1537.7	1532.7	1543.4	1562.6
37.5°	1563.8	1529.2	1514.6	1510.0	1520.4	1539.6
38°	1540.3	1505.8	1491.6	1486.6	1497.0	1515.4
38.5°	1516.5	1481.2	1467.4	1462.8	1472.8	1491.2
39°	1491.6	1456.7	1443.6	1439.0	1449.0	1465.9
39.5°	1467.0	1430.9	1417.9	1414.0	1422.5	1439.8
40°	1441.3	1404.8	1391.4	1387.5	1395.6	1412.9
40.5°	1414.0	1377.6	1364.1	1360.3	1367.6	1383.7
41°	1386.0	1349.5	1336.5	1332.3	1340.3	1355.7
41.5°	1358.0	1321.5	1308.5	1305.0	1311.9	1328.0
42°	1331.1	1295.0	1281.6	1277.4	1285.0	1300.0
42.5°	1303.5	1267.4	1253.5	1248.2	1255.5	1269.3
43°	1275.4	1238.6	1225.1	1220.9	1227.4	1241.6
43.5°	1246.6	1210.5	1197.5	1193.3	1200.6	1215.9



TEST NUMBER: P776340

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1172.5	1139.5	1127.2	1123.8	1131.5	1147.6
45.5°	1150.7	1117.6	1105.3	1102.7	1110.3	1126.1
46°	1129.9	1097.3	1085.4	1082.3	1090.4	1106.1
46.5°	1109.2	1077.7	1065.4	1062.7	1070.4	1086.2
47°	1090.4	1058.5	1045.8	1043.2	1050.8	1066.6
47.5°	1070.4	1038.2	1026.6	1023.6	1031.6	1047.0
48°	1051.2	1019.7	1007.4	1004.4	1012.1	1027.0
48.5°	1032.0	999.4	988.2	984.4	991.7	1004.8
49°	1010.9	979.0	967.1	962.9	969.1	980.6
49.5°	987.5	955.2	945.2	940.6	944.9	956.0
50°	963.3	932.2	921.4	916.8	919.1	928.0
50.5°	937.2	905.3	896.1	890.0	890.7	898.4
51°	908.8	877.7	867.7	861.2	861.6	868.1
51.5°	880.4	847.7	838.1	830.1	831.6	837.4
52°	851.6	817.8	806.6	798.2	799.0	805.9
52.5°	821.2	785.9	774.4	766.0	766.3	774.0
53°	790.5	754.4	741.8	732.5	733.3	741.4
53.5°	758.7	722.2	708.4	699.1	699.9	708.7
54°	727.2	690.3	675.3	665.7	666.5	675.7
54.5°	695.3	658.8	642.7	632.3	633.1	643.1
55°	664.2	627.0	609.3	598.6	600.1	610.5
55.5°	632.0	594.3	577.1	564.4	567.8	577.4
56°	599.3	562.8	544.4	531.4	535.6	545.2
56.5°	567.8	531.8	512.9	499.1	504.1	513.3
57°	535.2	501.0	480.7	466.9	472.2	481.8
57.5°	504.1	470.7	450.0	435.8	441.1	450.4
58°	473.0	440.8	420.0	405.8	410.8	419.6
58.5°	441.5	410.8	390.8	375.9	382.0	389.7
59°	410.8	382.0	362.4	347.5	352.1	360.1
59.5°	382.0	354.0	334.0	319.8	324.8	332.5
60°	353.6	326.3	306.8	292.9	297.9	304.1
60.5°	325.2	298.3	280.7	267.6	271.4	276.8
61°	296.8	272.2	254.9	243.4	245.3	250.7
61.5°	268.4	246.5	231.1	220.8	222.3	225.4
62°	241.9	221.1	207.7	197.7	198.9	200.4
62.5°	216.5	197.0	185.4	177.0	176.2	177.4
63°	192.0	173.9	164.3	156.6	154.7	154.7
63.5°	168.5	152.0	144.7	138.2	135.5	131.7
64°	146.3	130.9	128.2	122.9	119.8	112.5
64.5°	126.3	113.6	112.1	107.1	104.0	93.3
65°	106.7	96.4	96.0	91.8	87.9	74.1
65.5°	89.1	79.5	79.5	76.4	72.2	54.9
66°	72.9	62.2	63.3	61.0	56.1	40.3



TEST NUMBER: P776340

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	39.9	28.0	29.6	29.2	24.2	12.7
68°	30.7	20.0	21.5	20.7	16.9	10.0
68.5°	21.5	13.8	14.2	13.8	13.8	7.3
69°	12.3	10.8	11.1	10.8	10.8	4.6
69.5°	7.3	7.7	8.1	7.7	7.7	1.9
70°	3.8	4.6	4.6	4.6	4.6	1.5
70.5°	1.9	1.5	1.5	1.5	1.5	1.5
71°	1.5	1.5	1.5	1.5	1.5	1.5
71.5°	1.5	1.2	1.2	1.2	1.2	1.2
72°	1.2	1.2	1.2	1.2	1.2	1.2
72.5°	1.2	1.2	1.2	1.2	1.2	1.2
73°	1.2	1.2	1.2	1.2	1.2	1.2
73.5°	1.2	1.2	1.2	1.2	1.2	1.2
74°	1.2	1.2	1.2	1.2	0.8	0.8
74.5°	0.8	0.8	0.8	0.8	0.8	0.8
75°	0.8	0.8	0.8	0.8	0.8	0.8
75.5°	0.8	0.8	0.8	0.8	0.8	0.8
76°	0.8	0.8	0.8	0.8	0.8	0.8
76.5°	0.8	0.8	0.8	0.8	0.8	0.8
77°	0.8	0.8	0.8	0.8	0.8	0.8
77.5°	0.8	0.8	0.8	0.8	0.8	0.8
78°	0.8	0.8	0.8	0.8	0.8	0.8
78.5°	0.4	0.8	0.8	0.8	0.8	0.4
79°	0.4	0.4	0.8	0.8	0.8	0.4
79.5°	0.4	0.4	0.8	0.8	0.4	0.4
80°	0.4	0.4	0.8	0.8	0.4	0.4
80.5°	0.4	0.4	0.8	0.8	0.4	0.4
81°	0.4	0.4	0.8	0.8	0.4	0.4
81.5°	0.4	0.4	0.8	0.8	0.4	0.4
82°	0.4	0.4	0.8	0.8	0.4	0.4
82.5°	0.4	0.4	0.8	0.8	0.4	0.4
83°	0.4	0.4	0.8	0.8	0.4	0.4
83.5°	0.4	0.4	0.8	0.8	0.4	0.4
84°	0.4	0.4	0.8	0.8	0.4	0.4
84.5°	0.4	0.4	0.8	0.8	0.4	0.4
85°	0.4	0.4	0.8	0.8	0.8	0.4
85.5°	0.4	0.4	0.8	0.8	0.8	0.4
86°	0.4	0.4	0.8	0.8	0.8	0.4
86.5°	0.4	0.4	0.8	1.2	0.8	0.4
87°	0.4	0.4	1.2	1.2	1.2	0.4
87.5°	0.4	0.8	1.2	1.5	1.2	0.4
88°	0.4	0.8	1.5	1.9	1.5	0.4
88.5°	0.4	0.8	1.9	2.3	1.9	0.4



TEST NUMBER: P776340
CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.4	1.5	2.7	1.9	2.7	0.4



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Scaled Data Report





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

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Scaled Data Report



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Scaled Data Report





21.5°	2139.7	2157.7	2185.0	2212.6	2247.2	2259.8	2258.3	2246.4	2227.6	2206.5	2182.7
22°	2123.5	2142.0	2169.2	2197.6	2231.8	2244.9	2243.3	2231.0	2212.6	2191.1	2166.9



44°	1191.7	1216.3	1239.7	1261.2	1291.9	1301.5	1303.8	1298.5	1287.7	1268.9	1247.0
44.5°	1169.1	1193.3	1216.7	1237.4	1267.4	1276.6	1278.9	1274.3	1263.1	1244.3	1221.3



66.5°	29.2	39.9	45.7	51.8	65.7	70.3	74.5	72.6	58.4	69.5	65.7
67°	20.0	29.9	34.9	39.2	54.5	58.4	62.2	60.7	45.3	58.4	55.3



89°	0.4	0.8	1.2	0.8	0.0	0.0	0.0	0.4	0.0	0.4	0.4
89.5°	0.4	1.2	1.2	0.8	0.4	0.0	0.0	0.4	0.0	0.4	0.4

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21.5°	2161.9	2143.1	2139.3	2136.2	2134.7	2139.7
22°	2145.4	2127.0	2122.8	2118.9	2117.8	2123.5



44°	1220.1	1185.6	1173.3	1168.7	1176.8	1191.7
44.5°	1195.6	1162.2	1149.5	1146.0	1153.7	1169.1

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66.5°	58.7	48.8	51.1	49.1	44.2	29.2
67°	49.1	37.2	39.5	38.4	33.4	20.0



89°	0.4	1.2	1.9	2.7	1.9	0.4
89.5°	0.4	1.2	2.3	2.7	2.3	0.4

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Scaled Data Report



(END OF REPORT)