

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: P776399

Luminaire Tested: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-5000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776399
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B013)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-5000K
Description: 6 INCH ROUND MEDIUM LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4201.1 lumens
Efficiency: N/A
Efficacy: 109.1 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.17 / 1.23
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

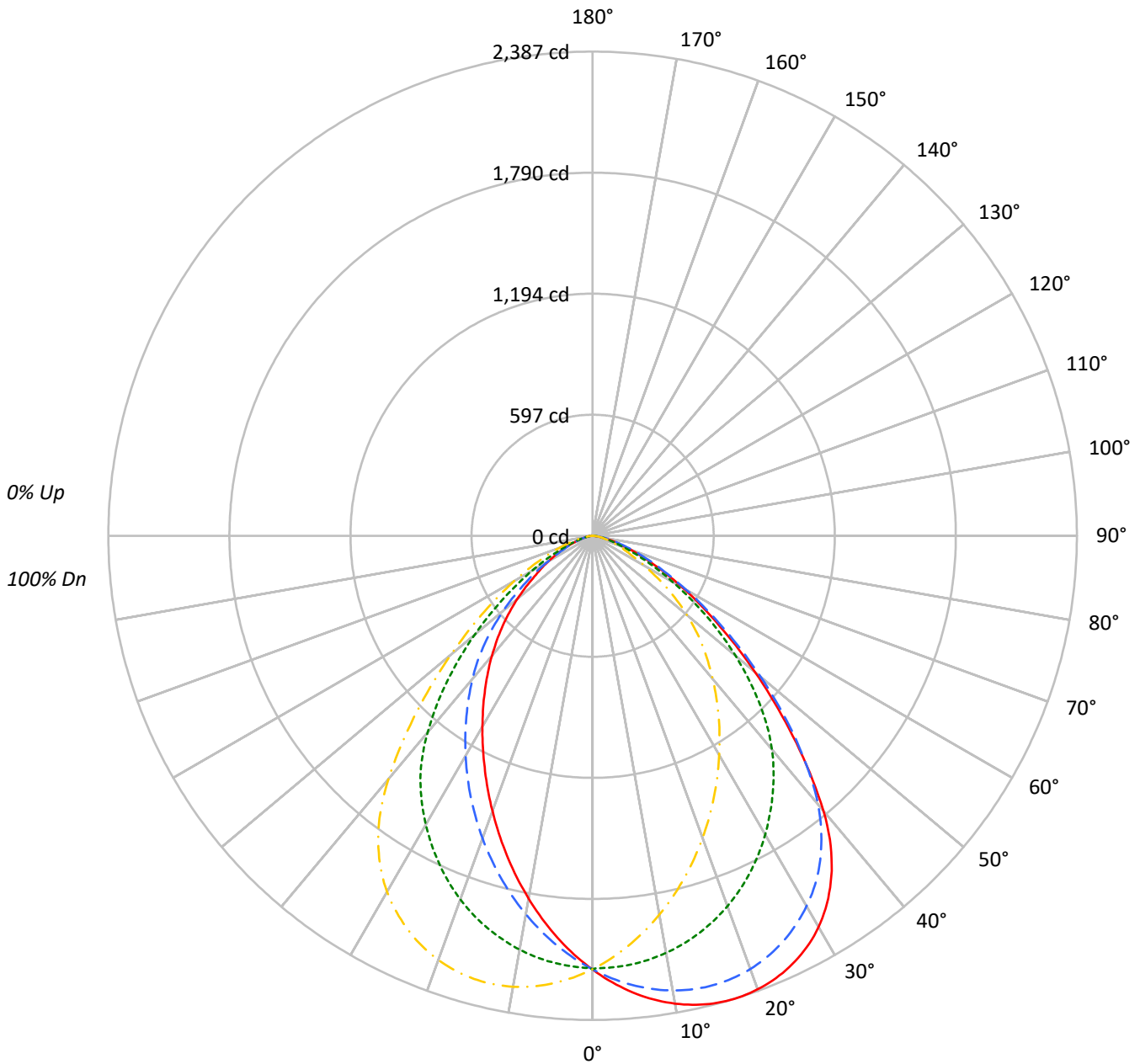
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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									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																			
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	89																			
2	103	96	90	86	100	94	89	85	91	87	83	88	84	81	85	82	79	77																			
3	95	86	79	74	93	85	78	73	82	76	72	79	75	71	77	73	70	68																			
4	88	78	70	64	86	77	69	64	74	68	63	72	67	62	70	65	62	60																			
5	82	70	63	57	80	69	62	56	67	61	56	66	60	55	64	59	55	53																			
6	76	64	56	51	74	63	56	50	62	55	50	60	54	49	58	53	49	47																			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	45	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																			
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	117145	117145	117145	117145
5°	124345	116806	109448	116355
10°	130381	116219	101106	115312
15°	135250	115080	92589	113644
20°	138810	113381	84223	111257
25°	140905	110904	76196	108055
30°	140965	107643	68757	104073
35°	137286	103597	61857	99053
40°	126644	98399	55225	90555
45°	108151	89924	48509	78504
50°	89114	78445	41295	64740
55°	71491	64657	33461	50579
60°	56191	50084	27618	37936
65°	42702	36710	21598	27111
70°	31528	25758	16060	18689
75°	22346	17940	11946	12306
80°	14080	12786	8524	7735
85°	4655	10064	4403	3837

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 111198 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.3	4.8
10°-20°	566.7	13.5
20°-30°	828.4	19.7
30°-40°	931.0	22.2
40°-50°	803.0	19.1
50°-60°	515.7	12.3
60°-70°	250.1	6.0
70°-80°	89.5	2.1
80°-90°	15.5	0.4
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°	1596.4	38.0
0°-40°	2527.3	60.2
0°-60°	3846.0	91.5
0°-90°	4201.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4201.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2137	2137	2137	2137	2137	
5°	2260	2123	1989	2114	2260	218
15°	2383	2028	1631	2002	2383	674
25°	2330	1834	1260	1786	2330	1072
35°	2051	1548	924	1480	2051	1272
45°	1395	1160	626	1013	1395	1076
55°	748	676	350	529	748	675
65°	329	283	166	209	329	333
75°	106	85	56	58	106	116
85°	7	16	7	6	7	14
90°	0	1	0	0	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°	2136.9	2136.9	2136.9	2136.9	2136.9	2136.9	2136.9	2136.9	2136.9	2136.9	2136.9
0.5°	2152.9	2151.2	2148.0	2143.0	2131.6	2128.7	2127.1	2126.3	2125.5	2125.9	2128.3
1°	2165.5	2163.5	2157.4	2148.0	2131.6	2123.8	2117.3	2113.6	2111.1	2112.4	2117.7
1.5°	2178.6	2175.8	2166.4	2152.9	2131.6	2117.7	2107.1	2100.1	2096.8	2098.9	2107.5
2°	2191.3	2187.6	2175.4	2157.8	2131.2	2112.0	2096.8	2086.6	2082.5	2085.8	2096.4
2.5°	2203.6	2198.7	2184.4	2161.9	2130.4	2105.8	2085.8	2072.7	2067.4	2071.5	2085.4
3°	2215.4	2209.7	2192.1	2166.0	2129.1	2099.7	2075.2	2058.8	2051.8	2057.2	2073.9
3.5°	2226.9	2220.3	2200.7	2170.0	2127.9	2093.2	2063.7	2044.1	2036.7	2042.8	2062.9
4°	2237.9	2231.4	2208.1	2173.3	2126.3	2086.2	2052.3	2029.4	2020.8	2028.1	2051.0
4.5°	2249.0	2240.8	2215.8	2176.6	2124.6	2078.8	2040.4	2014.6	2004.8	2013.4	2039.2
5°	2259.6	2251.0	2222.8	2179.4	2122.6	2071.9	2028.5	1999.5	1988.9	1997.9	2026.9
5.5°	2269.4	2260.0	2229.8	2182.3	2120.1	2063.7	2016.3	1984.4	1972.5	1982.7	2014.6
6°	2279.2	2269.0	2236.3	2184.8	2117.7	2055.9	2004.0	1968.4	1955.3	1967.2	2002.0
6.5°	2288.2	2277.6	2242.4	2186.8	2114.8	2048.2	1990.9	1952.9	1939.0	1951.2	1989.3
7°	2297.2	2285.8	2248.2	2188.9	2111.6	2039.6	1978.2	1936.9	1921.8	1935.7	1976.2
7.5°	2305.8	2293.6	2253.9	2190.1	2108.3	2031.0	1965.1	1920.6	1904.6	1919.7	1963.1
8°	2313.6	2301.3	2258.8	2191.3	2104.6	2022.4	1951.6	1904.6	1887.0	1903.0	1949.6
8.5°	2321.4	2308.7	2263.7	2192.5	2100.9	2013.4	1937.7	1887.4	1869.9	1886.6	1936.1
9°	2328.7	2315.2	2268.2	2192.9	2096.8	2004.0	1924.2	1871.1	1851.9	1870.3	1922.6
9.5°	2335.7	2321.8	2272.3	2193.8	2092.3	1994.6	1910.3	1854.3	1833.9	1853.1	1908.3
10°	2342.2	2327.9	2276.0	2193.8	2087.8	1984.8	1896.4	1837.5	1816.3	1836.3	1894.8
10.5°	2348.4	2333.6	2279.6	2193.4	2082.9	1975.0	1882.1	1820.4	1798.7	1819.5	1880.5
11°	2354.1	2338.5	2282.9	2192.9	2078.0	1964.7	1867.4	1802.8	1779.9	1802.4	1866.2
11.5°	2359.0	2343.4	2285.4	2192.1	2072.3	1954.1	1852.7	1785.6	1761.5	1785.2	1851.4
12°	2363.9	2347.5	2287.8	2190.9	2067.0	1943.9	1837.9	1768.0	1743.5	1768.0	1837.1
12.5°	2368.4	2351.6	2289.9	2189.7	2060.8	1932.8	1823.2	1750.4	1725.1	1750.0	1822.4
13°	2372.1	2354.9	2291.5	2188.0	2055.1	1922.2	1808.1	1732.8	1706.3	1732.8	1807.3
13.5°	2375.8	2358.2	2292.7	2185.6	2048.6	1911.2	1793.0	1715.3	1687.9	1715.3	1792.6
14°	2378.6	2360.6	2293.6	2183.5	2042.0	1899.7	1777.4	1696.9	1669.0	1697.7	1777.4
14.5°	2381.1	2363.1	2293.6	2180.7	2035.1	1888.3	1761.9	1678.9	1650.6	1679.3	1761.9
15°	2383.1	2364.7	2294.0	2177.4	2027.7	1876.4	1746.3	1660.9	1631.4	1661.7	1746.3
15.5°	2384.8	2365.9	2293.6	2174.1	2020.8	1864.5	1730.4	1643.3	1613.0	1644.1	1730.8
16°	2386.0	2367.2	2292.7	2170.9	2013.0	1852.7	1714.8	1624.9	1594.2	1626.1	1715.3
16.5°	2386.8	2367.2	2291.9	2166.8	2005.2	1840.0	1698.5	1606.5	1575.4	1608.1	1699.7
17°	2387.2	2367.2	2290.3	2162.3	1997.0	1827.7	1682.9	1588.5	1556.6	1590.1	1683.8
17.5°	2386.8	2367.2	2288.2	2157.4	1988.9	1815.0	1666.6	1570.1	1537.4	1571.7	1667.8
18°	2386.4	2366.4	2286.2	2152.9	1980.3	1802.4	1650.2	1551.7	1518.9	1554.1	1651.9
18.5°	2385.2	2365.1	2282.9	2147.1	1971.3	1789.3	1633.9	1533.7	1500.1	1535.7	1635.5
19°	2383.9	2363.5	2280.1	2141.8	1961.9	1776.2	1617.5	1515.3	1481.3	1517.3	1619.6
19.5°	2381.9	2361.4	2276.4	2135.7	1952.9	1763.1	1601.6	1496.9	1462.5	1499.7	1603.6
20°	2379.4	2359.0	2272.7	2129.1	1943.5	1749.6	1585.2	1478.9	1443.7	1481.7	1587.2
20.5°	2376.6	2355.7	2268.2	2122.6	1933.2	1736.1	1568.0	1460.9	1425.7	1463.3	1570.9
21°	2373.3	2352.4	2263.7	2115.6	1923.0	1722.2	1551.3	1442.5	1406.5	1445.3	1554.1



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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°	2360.6	2339.8	2247.3	2092.3	1891.5	1680.1	1501.8	1388.5	1351.3	1391.3	1504.6
23°	2355.3	2334.4	2240.8	2084.2	1880.5	1665.8	1484.6	1370.1	1332.5	1373.4	1487.9
23.5°	2350.0	2328.7	2234.2	2075.6	1869.0	1651.5	1467.8	1352.5	1314.5	1355.4	1471.1
24°	2343.4	2322.6	2226.9	2066.2	1857.6	1636.7	1451.1	1334.1	1296.1	1337.4	1454.7
24.5°	2336.9	2316.0	2219.5	2057.2	1845.7	1622.4	1433.9	1316.5	1277.6	1319.4	1438.0
25°	2329.5	2309.1	2211.3	2047.3	1833.5	1607.7	1416.7	1298.1	1259.7	1301.8	1421.2
25.5°	2321.8	2301.3	2203.2	2037.5	1821.6	1592.6	1400.3	1280.9	1242.1	1284.2	1404.4
26°	2314.0	2293.6	2194.6	2026.9	1808.9	1577.4	1383.6	1262.9	1224.5	1266.6	1387.3
26.5°	2305.0	2285.0	2185.2	2016.7	1796.2	1562.3	1366.4	1245.3	1206.5	1248.6	1370.5
27°	2296.0	2276.0	2175.4	2005.2	1783.6	1547.2	1349.2	1227.8	1188.9	1231.4	1353.7
27.5°	2286.2	2266.6	2165.5	1994.2	1770.1	1531.6	1332.5	1211.0	1171.3	1213.8	1337.0
28°	2276.0	2256.3	2154.9	1982.3	1756.6	1516.1	1315.7	1193.4	1154.1	1196.7	1320.2
28.5°	2264.9	2246.1	2143.9	1970.5	1743.1	1500.5	1298.9	1176.2	1137.0	1179.5	1303.4
29°	2253.1	2235.1	2132.4	1957.8	1729.2	1485.0	1281.7	1158.6	1120.2	1162.3	1286.2
29.5°	2240.4	2223.2	2121.0	1945.5	1715.3	1469.1	1265.0	1142.3	1103.0	1144.7	1269.5
30°	2226.9	2210.9	2108.7	1932.8	1700.5	1453.5	1247.8	1125.1	1086.2	1128.0	1252.3
30.5°	2213.0	2197.9	2096.0	1918.9	1686.2	1437.6	1231.4	1108.3	1069.5	1110.8	1235.5
31°	2198.7	2183.9	2082.9	1905.4	1671.9	1421.2	1214.7	1092.0	1053.1	1094.0	1218.8
31.5°	2183.1	2169.2	2069.4	1891.5	1656.4	1405.3	1197.9	1075.2	1036.4	1077.2	1201.6
32°	2167.6	2153.7	2055.1	1877.2	1641.6	1389.3	1181.1	1058.8	1020.4	1060.5	1185.2
32.5°	2150.4	2137.3	2040.0	1862.5	1626.5	1372.9	1164.4	1042.5	1004.0	1044.1	1168.5
33°	2131.6	2120.6	2024.4	1847.8	1611.0	1356.2	1147.6	1026.5	988.1	1027.8	1150.9
33.5°	2112.0	2103.0	2008.1	1832.6	1595.8	1339.8	1131.2	1010.6	972.1	1011.0	1134.1
34°	2093.2	2085.0	1990.9	1816.7	1579.9	1323.5	1114.5	994.2	956.2	995.5	1117.7
34.5°	2072.3	2065.3	1972.9	1800.3	1563.9	1307.1	1098.1	978.3	939.8	979.1	1101.0
35°	2051.4	2045.3	1954.5	1784.0	1548.0	1290.7	1081.7	962.3	924.3	962.7	1084.2
35.5°	2028.9	2024.9	1935.3	1766.8	1532.0	1274.0	1065.4	946.8	908.8	947.2	1067.4
36°	2004.8	2002.8	1915.7	1749.2	1515.7	1257.6	1049.4	931.2	893.6	931.2	1051.1
36.5°	1980.3	1980.3	1895.2	1730.4	1498.5	1240.8	1033.1	915.3	877.7	915.3	1034.3
37°	1954.1	1956.6	1873.9	1711.6	1482.1	1224.5	1016.7	899.8	862.5	899.3	1017.9
37.5°	1927.1	1931.6	1851.9	1691.5	1465.0	1207.3	1000.8	884.6	847.0	883.8	1001.2
38°	1898.9	1906.2	1829.0	1671.5	1447.4	1190.5	984.4	869.1	831.9	868.3	984.8
38.5°	1868.6	1879.7	1805.2	1650.6	1429.8	1174.2	968.5	853.9	817.1	852.7	968.5
39°	1837.9	1851.9	1780.7	1629.0	1412.2	1157.0	952.9	838.4	802.0	837.2	952.5
39.5°	1804.8	1821.6	1755.3	1606.5	1393.8	1140.6	937.0	823.7	786.9	821.6	936.6
40°	1769.7	1790.1	1728.3	1583.2	1375.0	1123.5	920.6	808.6	771.7	806.5	920.2
40.5°	1733.3	1757.8	1699.7	1559.4	1355.4	1106.7	905.1	793.4	757.0	791.4	904.3
41°	1696.4	1724.3	1670.3	1534.5	1335.7	1090.3	889.1	778.3	742.3	775.8	888.7
41.5°	1659.2	1688.3	1640.0	1509.1	1315.3	1073.6	873.6	763.2	727.2	761.1	872.4
42°	1620.4	1652.7	1609.3	1483.0	1294.8	1056.8	857.6	748.4	712.8	746.0	856.0
42.5°	1582.7	1616.7	1577.8	1456.8	1273.2	1039.6	842.5	733.7	698.1	731.3	839.2
43°	1545.1	1580.3	1545.5	1429.8	1250.7	1022.0	827.0	719.0	683.4	716.5	822.0
43.5°	1507.1	1543.9	1512.4	1402.4	1228.6	1004.0	811.8	704.3	669.1	701.8	804.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1395.0	1434.3	1414.7	1318.5	1159.9	948.0	766.4	660.5	625.7	658.0	752.5
45.5°	1359.4	1398.3	1380.7	1289.9	1135.7	928.4	751.3	646.2	611.4	643.7	734.5
46°	1323.0	1361.9	1347.2	1261.7	1112.4	909.2	735.8	631.5	597.1	629.0	716.5
46.5°	1285.4	1325.1	1313.6	1232.3	1088.3	889.5	720.2	617.1	582.4	614.3	699.4
47°	1250.7	1289.1	1280.1	1203.2	1064.2	869.9	703.9	602.8	568.5	599.2	681.4
47.5°	1213.8	1253.5	1245.7	1173.4	1040.0	849.9	687.9	588.5	554.2	584.4	663.0
48°	1179.5	1218.3	1212.2	1144.3	1016.3	830.2	672.0	574.6	540.3	569.3	645.0
48.5°	1146.0	1184.0	1178.7	1114.5	991.8	810.6	655.6	559.9	525.9	554.2	627.4
49°	1111.2	1149.6	1145.1	1085.4	967.6	790.6	639.2	545.6	511.6	539.0	609.4
49.5°	1078.5	1115.3	1112.8	1055.6	943.1	770.5	622.9	531.7	497.7	523.9	591.4
50°	1044.9	1081.3	1078.9	1025.7	919.8	750.5	606.9	517.8	484.2	509.2	573.4
50.5°	1011.4	1048.2	1047.0	995.9	894.8	730.0	590.2	503.0	470.3	493.6	556.2
51°	980.7	1015.5	1015.1	967.2	869.9	709.6	573.4	488.3	456.0	478.1	538.2
51.5°	949.2	983.6	983.6	938.2	845.8	690.4	557.0	474.4	442.5	463.4	521.4
52°	917.7	952.1	952.5	909.6	821.6	670.3	540.7	460.5	429.0	448.2	503.9
52.5°	889.1	921.0	921.8	880.1	796.7	650.3	523.9	445.8	415.1	433.5	486.7
53°	858.4	891.2	891.6	852.3	772.2	630.2	508.0	431.5	401.6	418.4	469.5
53.5°	830.2	861.3	862.1	824.5	748.0	610.6	491.6	417.6	387.7	403.7	452.7
54°	801.2	831.9	833.1	797.1	724.3	591.0	474.8	403.3	374.6	388.9	436.0
54.5°	773.4	803.6	805.3	769.7	700.2	571.8	458.9	388.9	361.1	374.6	419.6
55°	748.0	775.8	776.7	742.7	676.5	552.9	442.9	375.4	350.1	361.1	403.3
55.5°	721.0	748.8	749.7	716.5	652.7	533.3	427.0	361.5	339.5	347.2	387.7
56°	696.5	722.3	723.1	690.8	629.4	514.1	411.0	348.9	328.4	333.7	371.8
56.5°	670.7	696.5	696.9	665.0	606.9	495.7	395.5	336.2	317.4	320.2	357.0
57°	647.0	671.1	671.5	640.1	584.4	476.9	380.4	323.5	309.6	306.7	342.3
57.5°	623.7	646.6	646.2	615.9	562.3	458.1	365.2	310.8	300.2	293.6	327.2
58°	600.4	622.9	622.1	592.2	539.9	440.5	350.9	303.5	290.4	281.4	312.5
58.5°	578.3	599.6	598.7	569.3	518.6	422.5	336.2	294.9	280.6	270.7	297.7
59°	555.8	576.7	575.8	546.4	497.7	404.9	321.9	285.5	270.7	262.6	283.8
59.5°	534.5	555.4	553.8	524.3	476.9	387.7	307.6	275.7	261.3	254.0	270.3
60°	512.5	533.7	531.7	503.0	456.8	370.9	293.2	266.2	251.9	245.4	257.2
60.5°	491.6	512.5	510.4	481.8	436.8	354.6	279.7	256.4	242.5	236.4	245.0
61°	472.0	491.6	490.0	461.7	418.0	338.6	266.7	247.0	233.5	227.4	233.1
61.5°	452.3	472.0	469.9	441.7	399.6	322.3	254.8	237.6	224.9	218.8	221.3
62°	433.1	452.3	451.1	422.5	381.6	306.3	242.9	228.6	216.3	210.2	210.6
62.5°	414.3	433.5	432.3	404.1	364.8	292.0	231.5	220.0	207.8	202.0	200.0
63°	396.7	415.1	413.9	386.1	348.0	277.3	220.4	211.4	199.2	193.9	189.8
63.5°	379.1	397.5	396.3	368.5	331.3	263.4	211.4	203.3	191.0	186.1	180.4
64°	361.5	379.9	379.1	350.9	314.5	249.9	203.7	195.1	182.8	178.3	171.4
64.5°	344.8	364.0	362.8	334.5	298.1	236.8	195.9	187.3	174.6	170.5	162.8
65°	329.2	347.6	346.4	318.6	283.0	224.5	188.1	179.5	166.5	162.8	155.0
65.5°	314.1	332.1	330.9	303.5	268.7	212.3	180.8	172.2	159.1	155.4	147.6
66°	298.6	316.5	315.7	288.7	254.4	200.4	173.0	164.4	151.7	148.1	141.1



TEST NUMBER: P776399

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	257.2	274.4	273.6	247.4	215.5	169.3	152.1	143.6	130.5	127.2	123.5
68°	244.2	261.3	260.5	234.3	203.7	159.9	145.6	137.0	123.9	120.6	118.2
68.5°	231.9	248.7	247.4	222.1	191.8	150.9	139.1	130.5	117.8	114.5	112.9
69°	219.6	236.8	235.2	210.2	181.2	142.7	132.9	124.3	111.7	108.4	107.6
69.5°	207.8	224.9	223.7	198.8	170.5	134.6	127.2	118.2	105.9	102.7	102.7
70°	196.7	213.1	211.9	187.7	160.7	127.2	121.5	112.5	100.2	96.9	97.3
70.5°	186.1	202.4	201.2	177.5	150.9	120.2	116.1	107.2	95.3	91.6	92.4
71°	175.5	191.8	190.6	167.3	142.3	113.7	110.8	101.8	90.0	86.7	87.9
71.5°	165.2	182.0	180.4	157.9	133.7	107.2	105.5	96.5	85.1	81.8	83.4
72°	155.8	171.8	170.5	148.9	125.6	101.4	100.2	91.6	80.6	77.3	78.5
72.5°	145.6	162.4	161.1	141.1	117.8	95.7	95.7	87.1	76.1	73.2	74.4
73°	137.4	153.0	151.7	132.9	110.4	90.4	90.8	82.6	72.0	68.7	70.3
73.5°	129.2	146.4	144.0	125.1	103.5	85.5	86.3	78.1	67.9	65.0	66.3
74°	121.1	137.8	135.8	117.0	96.9	81.0	81.8	74.0	63.8	60.9	62.2
74.5°	112.9	129.6	128.0	108.8	90.8	76.5	77.7	69.9	60.1	57.3	58.5
75°	105.5	121.5	119.8	101.8	84.7	72.4	73.2	65.8	56.4	54.0	54.8
75.5°	97.7	113.3	112.1	95.3	78.9	68.7	69.5	62.2	53.2	50.3	51.5
76°	90.8	105.9	104.7	88.7	73.6	65.0	65.8	58.5	49.5	47.0	48.3
76.5°	84.2	99.0	97.7	82.6	68.7	61.3	62.2	55.2	46.2	43.8	45.0
77°	77.7	92.4	91.2	76.9	63.8	58.1	58.5	51.5	43.4	40.9	42.1
77.5°	71.6	86.3	84.7	71.6	59.3	54.8	55.2	48.3	40.5	38.0	39.3
78°	65.8	80.2	78.5	66.3	54.8	51.5	51.9	45.0	37.6	35.2	36.4
78.5°	60.1	74.4	72.8	60.9	50.7	48.7	48.7	41.7	34.8	32.7	33.9
79°	54.8	69.1	67.1	56.4	47.0	45.8	45.4	38.9	32.3	30.3	31.5
79.5°	49.5	63.8	61.8	51.9	43.4	42.9	42.5	36.0	29.9	27.4	29.0
80°	44.6	58.9	56.8	47.4	40.5	40.1	39.7	33.5	27.0	24.9	26.2
80.5°	40.1	54.0	52.3	43.8	37.2	37.6	36.8	30.7	24.5	22.5	23.7
81°	35.6	49.5	47.9	40.1	34.8	35.2	34.4	27.8	22.5	20.4	21.7
81.5°	31.1	45.0	43.4	36.4	31.9	32.7	31.5	24.9	20.0	18.4	19.6
82°	27.0	40.9	39.3	33.1	29.4	29.9	29.0	22.5	18.0	16.4	17.6
82.5°	23.3	36.8	35.6	30.3	26.6	27.4	26.2	20.4	16.0	14.3	15.5
83°	19.6	33.1	31.9	27.4	24.1	24.9	23.7	18.0	13.9	12.3	13.9
83.5°	16.0	29.4	28.6	24.5	22.1	22.9	21.3	16.0	12.3	10.6	12.3
84°	13.1	25.8	25.4	21.7	19.6	20.9	19.2	13.9	10.6	8.6	10.6
84.5°	10.2	22.5	22.5	19.2	18.0	18.8	17.2	11.9	8.6	7.4	9.0
85°	7.4	19.2	19.6	17.2	16.0	16.8	15.1	10.2	7.0	5.7	7.8
85.5°	4.5	16.0	16.8	14.7	13.9	14.7	13.1	8.6	5.7	4.9	6.1
86°	3.3	13.9	14.7	13.1	12.3	13.1	11.5	7.4	4.5	4.1	4.9
86.5°	2.5	11.5	12.7	11.0	10.6	11.0	9.8	6.1	3.7	3.3	3.7
87°	2.0	9.0	10.2	9.0	9.0	9.4	8.2	4.9	2.9	2.5	2.5
87.5°	1.2	7.0	8.2	7.4	7.4	7.8	6.5	4.1	2.0	1.6	1.2
88°	0.8	4.9	6.1	5.7	6.1	6.1	5.3	2.9	1.2	0.8	0.4
88.5°	0.4	2.9	4.1	4.1	4.9	4.5	3.7	2.0	0.8	0.4	0.0



TEST NUMBER: P776399

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776399

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2136.9	2136.9	2136.9	2136.9	2136.9	2136.9
0.5°	2132.0	2130.8	2138.5	2145.5	2151.2	2152.9
1°	2126.3	2130.4	2143.0	2154.9	2163.5	2165.5
1.5°	2120.1	2129.1	2147.1	2163.1	2174.9	2178.6
2°	2113.6	2127.9	2151.2	2171.7	2186.4	2191.3
2.5°	2107.1	2126.3	2154.5	2179.9	2197.0	2203.6
3°	2100.5	2124.6	2157.8	2187.2	2208.1	2215.4
3.5°	2093.2	2122.6	2161.0	2194.6	2217.9	2226.9
4°	2085.8	2120.1	2163.5	2201.5	2228.1	2237.9
4.5°	2078.0	2117.3	2166.0	2208.1	2237.5	2249.0
5°	2070.2	2114.4	2168.0	2214.6	2246.9	2259.6
5.5°	2062.5	2111.6	2170.0	2220.3	2255.9	2269.4
6°	2053.9	2108.3	2171.7	2226.1	2264.1	2279.2
6.5°	2045.7	2104.6	2172.5	2231.4	2272.3	2288.2
7°	2037.1	2100.5	2173.3	2236.3	2279.6	2297.2
7.5°	2028.1	2096.4	2174.1	2240.8	2287.0	2305.8
8°	2019.1	2091.9	2174.1	2244.9	2294.0	2313.6
8.5°	2009.7	2087.0	2174.1	2248.6	2300.5	2321.4
9°	2000.3	2082.5	2173.7	2251.8	2306.6	2328.7
9.5°	1990.5	2076.8	2172.9	2255.1	2312.4	2335.7
10°	1980.7	2071.5	2171.7	2257.6	2317.7	2342.2
10.5°	1970.9	2066.2	2170.4	2259.6	2322.6	2348.4
11°	1960.2	2060.0	2168.4	2261.7	2327.1	2354.1
11.5°	1950.0	2053.5	2166.4	2262.9	2330.8	2359.0
12°	1939.0	2046.9	2163.9	2264.1	2334.4	2363.9
12.5°	1927.9	2040.0	2161.0	2264.5	2337.7	2368.4
13°	1916.9	2033.0	2158.2	2264.9	2340.2	2372.1
13.5°	1905.8	2026.1	2154.5	2264.5	2342.2	2375.8
14°	1894.4	2018.3	2150.8	2264.1	2344.3	2378.6
14.5°	1882.5	2010.5	2146.7	2262.9	2345.5	2381.1
15°	1870.7	2002.4	2141.8	2261.7	2346.3	2383.1
15.5°	1858.8	1993.8	2136.9	2259.6	2346.7	2384.8
16°	1846.5	1985.6	2132.0	2257.6	2346.7	2386.0
16.5°	1834.3	1976.6	2126.7	2254.7	2346.3	2386.8
17°	1821.6	1967.6	2120.6	2251.8	2345.5	2387.2
17.5°	1808.9	1958.2	2114.4	2248.2	2344.3	2386.8
18°	1795.8	1948.4	2107.9	2244.5	2342.6	2386.4
18.5°	1782.7	1938.6	2100.9	2240.0	2340.2	2385.2
19°	1769.7	1928.3	2093.6	2235.5	2337.7	2383.9
19.5°	1756.2	1918.1	2086.2	2230.2	2334.4	2381.9
20°	1742.7	1907.1	2078.0	2224.8	2331.2	2379.4
20.5°	1729.2	1896.4	2069.8	2218.7	2327.1	2376.6
21°	1714.8	1885.4	2061.3	2212.6	2322.6	2373.3

TEST NUMBER: P776399

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1672.7	1849.8	2033.4	2191.3	2306.6	2360.6
23°	1658.0	1837.9	2023.2	2183.1	2300.5	2355.3
23.5°	1644.1	1825.7	2013.0	2174.9	2294.0	2350.0
24°	1629.0	1813.0	2002.4	2166.4	2286.6	2343.4
24.5°	1613.8	1800.3	1991.3	2157.0	2278.8	2336.9
25°	1599.1	1786.4	1979.9	2147.1	2270.6	2329.5
25.5°	1584.4	1773.3	1968.4	2136.9	2261.7	2321.8
26°	1569.3	1759.8	1956.6	2126.7	2253.1	2314.0
26.5°	1553.3	1746.7	1944.7	2115.6	2243.2	2305.0
27°	1538.2	1732.0	1932.0	2104.2	2233.4	2296.0
27.5°	1522.6	1717.3	1918.9	2092.7	2222.8	2286.2
28°	1507.1	1703.8	1905.4	2080.5	2211.3	2276.0
28.5°	1491.1	1689.1	1891.9	2067.8	2199.5	2264.9
29°	1475.2	1674.4	1878.0	2054.7	2187.2	2253.1
29.5°	1459.6	1659.6	1863.3	2040.8	2173.7	2240.4
30°	1443.3	1644.1	1849.4	2026.5	2159.8	2226.9
30.5°	1426.9	1629.0	1833.9	2011.4	2144.7	2213.0
31°	1411.0	1613.0	1819.1	1995.8	2129.1	2198.7
31.5°	1394.6	1598.3	1803.2	1979.0	2112.4	2183.1
32°	1378.3	1581.1	1786.8	1961.9	2095.6	2167.6
32.5°	1361.9	1565.2	1769.7	1944.3	2078.0	2150.4
33°	1345.1	1548.4	1751.7	1925.5	2060.0	2131.6
33.5°	1328.8	1532.4	1734.1	1906.2	2040.8	2112.0
34°	1312.0	1515.3	1714.4	1885.4	2019.5	2093.2
34.5°	1295.6	1497.7	1694.4	1864.1	1997.5	2072.3
35°	1278.5	1480.1	1673.9	1842.4	1975.0	2051.4
35.5°	1262.1	1461.3	1652.7	1820.0	1952.1	2028.9
36°	1245.3	1441.6	1631.0	1796.2	1927.9	2004.8
36.5°	1228.2	1422.4	1608.5	1771.7	1902.6	1980.3
37°	1211.0	1402.0	1584.4	1745.5	1875.6	1954.1
37.5°	1193.4	1379.9	1560.3	1718.5	1847.4	1927.1
38°	1176.2	1358.2	1533.7	1690.7	1817.5	1898.9
38.5°	1158.6	1336.1	1507.9	1661.3	1786.8	1868.6
39°	1140.6	1313.2	1479.7	1630.2	1754.5	1837.9
39.5°	1121.8	1289.1	1452.7	1597.5	1720.2	1804.8
40°	1102.6	1265.4	1423.2	1563.9	1684.2	1769.7
40.5°	1082.2	1240.8	1394.6	1531.6	1648.2	1733.3
41°	1062.1	1216.3	1365.6	1497.3	1611.4	1696.4
41.5°	1041.3	1192.2	1336.1	1463.3	1574.2	1659.2
42°	1020.0	1166.4	1307.1	1429.4	1536.1	1620.4
42.5°	999.5	1141.1	1277.2	1395.4	1499.7	1582.7
43°	978.3	1115.7	1246.6	1360.7	1463.3	1545.1
43.5°	957.0	1090.7	1216.7	1326.3	1426.1	1507.1

TEST NUMBER: P776399

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	892.8	1012.6	1125.5	1224.5	1317.7	1395.0
45.5°	871.5	987.7	1095.2	1191.4	1282.6	1359.4
46°	849.9	961.5	1065.0	1157.4	1247.0	1323.0
46.5°	828.6	936.6	1035.5	1125.5	1213.0	1285.4
47°	806.5	910.8	1006.1	1093.2	1178.3	1250.7
47.5°	784.4	884.6	975.4	1061.7	1143.9	1213.8
48°	763.2	859.3	946.4	1030.2	1110.4	1179.5
48.5°	741.9	833.9	918.2	1000.4	1078.1	1146.0
49°	719.8	809.8	890.3	969.7	1045.3	1111.2
49.5°	698.9	784.0	862.1	939.8	1014.3	1078.5
50°	677.7	759.1	833.9	910.8	982.0	1044.9
50.5°	656.4	734.1	808.1	881.8	952.1	1011.4
51°	635.6	710.0	781.1	853.9	921.8	980.7
51.5°	615.9	685.4	755.8	826.1	892.0	949.2
52°	594.2	662.5	730.8	799.6	863.4	917.7
52.5°	573.8	639.6	705.9	773.4	835.1	889.1
53°	553.8	615.9	681.4	747.2	807.3	858.4
53.5°	534.1	593.4	657.6	722.3	780.7	830.2
54°	514.1	572.2	634.7	696.9	753.7	801.2
54.5°	495.3	550.5	611.8	673.6	728.4	773.4
55°	476.1	529.2	589.7	649.5	703.4	748.0
55.5°	456.8	509.2	568.5	627.0	678.9	721.0
56°	438.4	489.1	546.8	604.5	655.2	696.5
56.5°	420.4	469.5	526.4	582.8	631.1	670.7
57°	402.8	450.7	505.9	561.1	608.6	647.0
57.5°	385.7	431.9	486.7	540.3	586.5	623.7
58°	368.9	413.9	467.5	520.6	565.2	600.4
58.5°	353.4	395.9	448.2	500.6	543.9	578.3
59°	337.4	379.1	431.1	481.4	523.5	555.8
59.5°	321.5	362.4	412.3	462.6	504.3	534.5
60°	305.9	346.0	395.9	444.6	484.6	512.5
60.5°	291.6	330.5	379.1	426.6	466.6	491.6
61°	277.7	314.9	362.8	409.0	447.4	472.0
61.5°	263.8	300.2	347.2	393.0	429.8	452.3
62°	250.3	285.9	332.1	376.7	412.7	433.1
62.5°	237.6	272.0	317.0	360.7	395.5	414.3
63°	225.3	258.1	302.6	345.2	378.7	396.7
63.5°	213.5	245.0	288.3	330.9	362.4	379.1
64°	202.0	232.7	274.8	316.1	346.4	361.5
64.5°	191.4	220.4	262.2	302.2	331.7	344.8
65°	181.2	209.0	249.5	288.3	316.5	329.2
65.5°	171.0	197.9	237.2	275.7	302.2	314.1
66°	161.5	186.9	224.9	263.0	287.9	298.6



TEST NUMBER: P776399

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	135.8	157.0	192.6	227.4	249.1	257.2
68°	128.0	148.5	182.0	215.9	237.2	244.2
68.5°	120.2	140.3	172.2	205.3	225.3	231.9
69°	113.7	132.5	162.8	194.7	214.3	219.6
69.5°	106.7	124.7	153.8	184.9	202.9	207.8
70°	100.6	116.6	145.6	175.0	192.6	196.7
70.5°	94.5	108.8	137.4	165.6	182.4	186.1
71°	89.2	102.2	129.6	156.6	173.0	175.5
71.5°	83.4	95.7	121.9	148.1	163.2	165.2
72°	78.5	89.2	113.7	140.3	154.2	155.8
72.5°	73.6	83.4	106.7	132.5	145.2	145.6
73°	69.1	77.7	99.8	124.7	137.4	137.4
73.5°	64.6	72.8	93.7	117.0	129.6	129.2
74°	60.5	67.5	87.5	109.2	121.5	121.1
74.5°	56.4	62.6	81.8	102.2	113.7	112.9
75°	52.8	58.1	75.7	95.7	106.7	105.5
75.5°	49.5	53.6	70.3	89.2	99.8	97.7
76°	46.2	49.5	65.0	83.0	92.8	90.8
76.5°	43.4	45.4	60.1	76.9	86.3	84.2
77°	40.5	42.1	55.6	71.2	80.6	77.7
77.5°	37.6	38.9	51.1	65.8	74.8	71.6
78°	35.2	35.6	47.0	60.9	69.1	65.8
78.5°	32.7	32.7	42.9	56.0	63.8	60.1
79°	30.7	29.9	39.3	51.1	58.5	54.8
79.5°	28.2	27.0	36.0	46.6	53.6	49.5
80°	25.8	24.5	32.3	42.5	49.1	44.6
80.5°	23.7	22.5	29.4	38.4	44.6	40.1
81°	21.7	20.0	26.2	34.8	40.1	35.6
81.5°	19.6	18.0	23.7	31.1	36.0	31.1
82°	17.6	16.0	20.9	27.4	32.3	27.0
82.5°	16.0	14.3	18.4	24.5	28.6	23.3
83°	13.9	12.7	16.0	21.3	25.4	19.6
83.5°	12.3	10.6	13.9	18.4	22.1	16.0
84°	10.6	9.0	11.9	16.0	19.2	13.1
84.5°	9.0	7.4	9.8	13.5	16.4	10.2
85°	7.4	6.1	7.8	11.5	14.3	7.4
85.5°	5.7	4.5	6.1	9.0	11.9	4.5
86°	4.5	3.3	4.5	6.5	9.4	3.3
86.5°	3.3	2.0	2.9	4.5	7.4	2.5
87°	1.6	0.8	1.2	2.9	4.9	2.0
87.5°	0.8	0.4	0.4	1.2	2.9	1.2
88°	0.0	0.0	0.0	0.0	1.2	0.8
88.5°	0.0	0.0	0.0	0.0	0.0	0.4



TEST NUMBER: P776399
CATALOG NUMBER: HCDJBL3040CSD-HCD6TRH-HCD6TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.0	0.0



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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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21.5°	2369.6	2348.8	2258.8	2108.3	1912.8	1708.3	1534.9	1424.5	1388.1	1426.9	1537.8
22°	2365.5	2344.3	2253.1	2100.5	1902.6	1694.4	1518.1	1406.1	1369.3	1409.3	1521.0



44°	1469.9	1507.5	1479.7	1374.6	1205.7	985.6	796.7	689.5	654.4	687.1	787.3
44.5°	1433.1	1470.7	1447.8	1346.8	1182.8	967.2	781.6	674.8	639.6	672.4	770.1



66.5°	283.8	302.2	301.4	274.0	240.9	189.8	165.6	157.0	144.0	140.7	135.0
67°	270.3	288.3	286.7	260.5	228.2	179.1	158.7	150.5	137.0	134.1	129.2



89°	0.0	1.2	2.5	2.5	3.3	3.3	2.5	1.2	0.0	0.0	0.0
89.5°	0.0	0.4	0.8	1.2	2.0	2.0	1.2	0.4	0.0	0.0	0.0

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21.5°	1701.4	1873.1	2052.3	2205.6	2318.1	2369.6
22°	1686.6	1862.5	2042.8	2198.7	2312.4	2365.5



44°	935.3	1065.0	1186.4	1292.0	1389.3	1469.9
44.5°	914.1	1038.8	1156.2	1258.0	1353.7	1433.1



66.5°	152.1	176.7	213.9	250.7	274.8	283.8
67°	143.6	166.5	202.9	238.4	261.7	270.3

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89°	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0

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(END OF REPORT)