

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: P776606

Luminaire Tested: HCDJBS4050CSD-HCD4TRH-HCD4TRLWW-5000lm-3000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776606
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B004)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD4TRH-HCD4TRLWW-5000lm-3000K
Description: 4 INCH ROUND MEDIUM LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

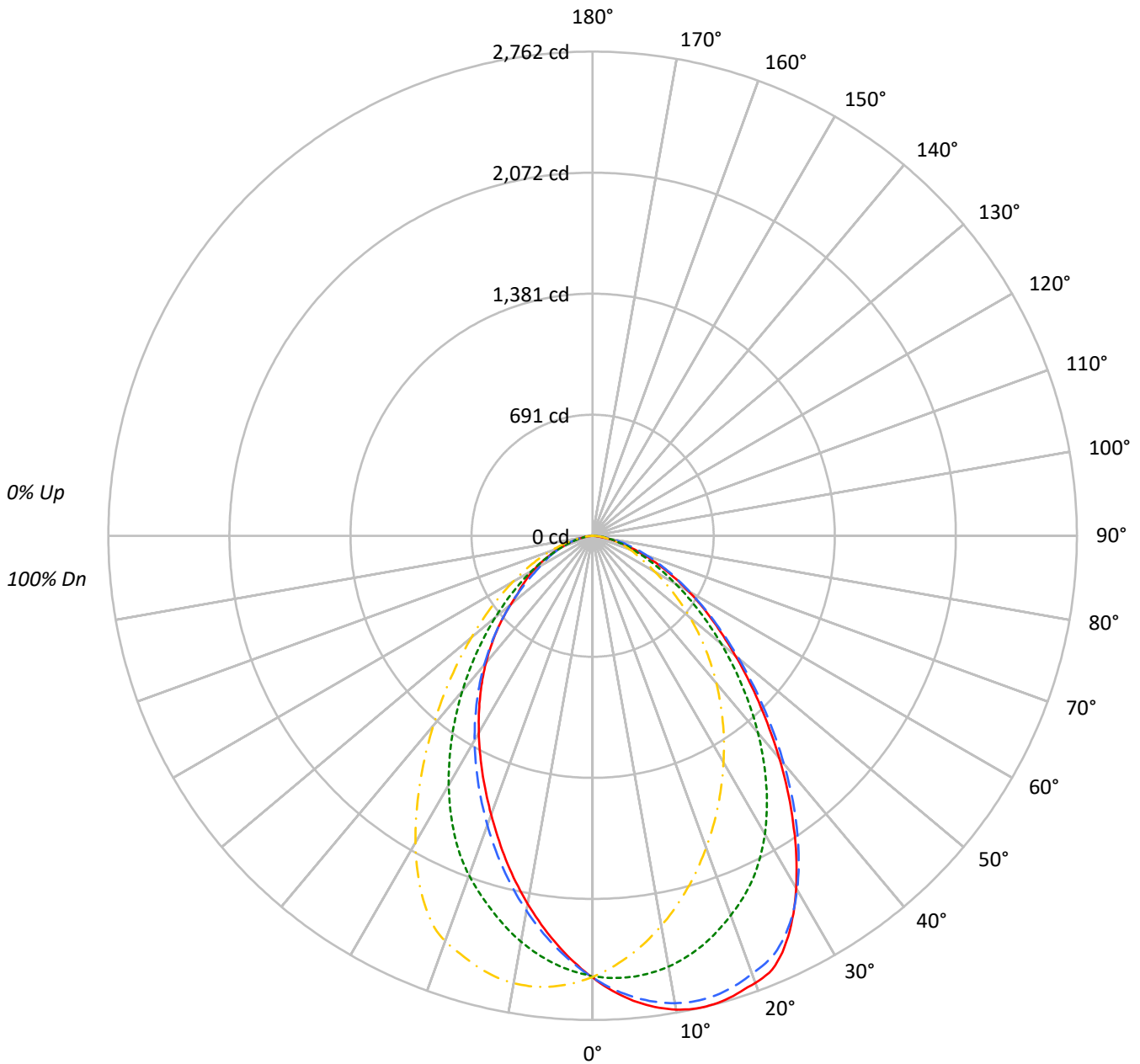
Lumens per Lamp: N/A
Luminaire Lumens: 4726.6 lumens
Efficiency: N/A
Efficacy: 98.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1.09 / 1.15
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 48
Input Voltage (V): NR
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: 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	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88								
2	102	95	89	84	100	93	88	83	90	85	82	87	83	80	84	81	78	76								
3	94	85	78	73	92	84	77	72	81	75	71	78	73	69	76	72	68	66								
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58								
5	81	70	62	56	79	69	61	55	67	60	55	65	59	54	63	58	54	52								
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48	46								
7	70	58	50	45	69	57	50	44	56	49	44	54	48	44	53	48	44	42								
8	66	54	46	40	64	53	45	40	52	45	40	50	44	40	49	44	40	38								
9	62	49	42	37	61	49	42	37	48	41	37	47	41	36	46	40	36	35								
10	58	46	39	34	57	45	38	34	45	38	34	44	38	33	43	37	33	32								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	316839	316839	316839	316839
5°	336304	319111	295500	309775
10°	350774	318877	272489	300463
15°	359377	315235	249113	288474
20°	363503	308540	226631	276049
25°	359467	300090	206707	259696
30°	337416	285479	188638	238483
35°	306239	265111	171871	214642
40°	272040	240891	155447	189963
45°	238313	214322	138307	165182
50°	207731	187075	119744	141770
55°	181717	161027	106964	120435
60°	158495	137101	96854	100730
65°	134391	116107	83321	82755
70°	110462	97289	68588	66711
75°	84947	81349	55578	52417
80°	54211	67691	39426	38701
85°	16172	59058	15450	18050

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 246411 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	236.2	5.0
10°-20°	654.5	13.8
20°-30°	927.4	19.6
30°-40°	969.0	20.5
40°-50°	815.6	17.3
50°-60°	579.1	12.3
60°-70°	351.3	7.4
70°-80°	161.1	3.4
80°-90°	32.4	0.7
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°	1818.1	38.5
0°-40°	2787.0	59.0
0°-60°	4181.8	88.5
0°-90°	4726.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4726.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2518	2518	2518	2518	2518	
5°	2662	2526	2339	2452	2662	257
15°	2758	2420	1912	2214	2758	778
25°	2589	2161	1489	1870	2589	1182
35°	1993	1726	1119	1397	1993	1243
45°	1339	1204	777	928	1339	1035
55°	828	734	488	549	828	745
65°	451	390	280	278	451	450
75°	175	167	114	108	175	189
85°	11	41	11	12	11	22
90°	0	2	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°	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6
0.5°	2537.1	2537.1	2534.3	2528.7	2515.3	2510.2	2506.9	2504.6	2504.6	2504.1	2506.0
1°	2553.4	2552.9	2547.3	2537.6	2518.1	2506.9	2497.6	2490.2	2487.4	2486.5	2491.1
1.5°	2568.7	2568.7	2560.8	2546.4	2520.8	2502.7	2486.9	2475.3	2470.2	2469.3	2475.8
2°	2583.6	2583.6	2573.8	2554.3	2523.2	2498.5	2476.2	2460.0	2452.1	2451.1	2460.0
2.5°	2598.0	2598.5	2585.9	2562.2	2525.0	2493.4	2465.5	2444.2	2433.9	2433.0	2443.7
3°	2611.5	2612.4	2598.0	2569.2	2526.0	2488.3	2454.4	2428.4	2415.8	2414.4	2427.9
3.5°	2625.0	2625.9	2609.2	2575.7	2526.9	2482.3	2442.3	2412.1	2397.2	2395.4	2411.6
4°	2638.0	2639.4	2619.8	2582.2	2526.9	2476.2	2430.2	2395.4	2377.7	2376.3	2394.4
4.5°	2650.1	2651.9	2630.1	2588.2	2526.9	2469.3	2417.7	2378.2	2358.2	2357.7	2377.2
5°	2662.1	2664.0	2639.8	2593.3	2526.0	2462.3	2404.7	2361.0	2339.1	2337.7	2360.0
5.5°	2672.8	2675.6	2649.1	2598.0	2525.5	2454.9	2391.6	2343.3	2319.1	2317.3	2342.4
6°	2683.5	2686.8	2658.0	2602.6	2523.6	2447.0	2377.7	2325.6	2299.2	2297.3	2324.3
6.5°	2693.3	2697.0	2665.9	2606.4	2521.8	2439.0	2364.2	2308.0	2279.2	2277.3	2306.1
7°	2702.6	2706.8	2673.8	2609.6	2519.5	2430.2	2350.3	2289.4	2258.3	2257.3	2288.0
7.5°	2711.4	2716.0	2680.7	2612.4	2516.2	2420.9	2335.4	2270.8	2237.8	2236.4	2268.9
8°	2719.3	2724.4	2687.2	2614.3	2512.9	2411.6	2320.5	2252.2	2216.9	2215.5	2249.9
8.5°	2726.3	2732.3	2693.3	2616.1	2509.2	2401.4	2305.2	2233.2	2196.0	2194.6	2230.8
9°	2733.2	2739.7	2698.8	2617.5	2505.0	2391.6	2290.3	2214.1	2174.6	2173.2	2211.8
9.5°	2739.3	2746.3	2703.5	2618.4	2500.4	2381.0	2274.1	2194.6	2153.2	2152.3	2192.3
10°	2744.9	2752.3	2707.7	2618.4	2495.3	2369.8	2258.3	2175.1	2132.3	2130.5	2172.3
10.5°	2749.5	2757.4	2710.9	2618.0	2489.7	2358.2	2241.5	2155.5	2110.5	2108.6	2152.3
11°	2753.2	2762.1	2714.2	2617.5	2483.7	2346.6	2226.2	2135.1	2088.6	2087.2	2132.3
11.5°	2756.5	2765.8	2716.0	2615.7	2477.2	2334.9	2208.5	2115.1	2067.2	2065.8	2112.3
12°	2758.8	2769.0	2717.9	2613.8	2470.2	2322.4	2191.3	2094.7	2044.9	2043.5	2091.9
12.5°	2760.7	2771.4	2718.8	2611.5	2462.8	2309.8	2173.7	2074.7	2023.1	2021.7	2071.0
13°	2761.6	2773.2	2719.3	2608.2	2454.9	2296.8	2156.9	2053.8	2001.2	1999.4	2051.0
13.5°	2762.1	2774.1	2718.8	2604.5	2446.5	2283.4	2139.3	2033.8	1978.9	1977.5	2030.1
14°	2761.1	2774.6	2717.9	2600.3	2438.1	2269.4	2121.2	2012.4	1956.6	1954.8	2009.1
14.5°	2760.2	2774.1	2716.0	2595.7	2428.4	2255.5	2103.0	1991.5	1934.8	1932.5	1988.2
15°	2758.3	2772.7	2713.7	2590.1	2419.5	2241.5	2084.4	1970.1	1912.0	1910.6	1966.9
15.5°	2755.6	2770.9	2710.9	2584.5	2409.3	2226.7	2066.3	1949.2	1889.7	1888.3	1945.9
16°	2752.8	2768.1	2707.2	2578.0	2398.6	2211.8	2047.7	1928.3	1867.4	1865.5	1925.0
16.5°	2748.6	2764.8	2703.0	2571.0	2387.9	2196.4	2028.7	1907.4	1845.6	1843.2	1904.1
17°	2744.4	2761.1	2697.9	2563.6	2376.8	2181.6	2010.1	1886.0	1822.8	1820.9	1882.7
17.5°	2739.3	2756.9	2692.8	2555.7	2364.7	2165.3	1990.6	1864.6	1800.5	1799.1	1861.8
18°	2734.2	2751.8	2686.8	2547.3	2353.1	2149.5	1971.5	1843.2	1778.6	1776.3	1840.4
18.5°	2728.1	2746.3	2680.3	2538.5	2341.0	2133.2	1952.0	1821.4	1756.8	1754.5	1819.1
19°	2723.0	2740.2	2673.3	2529.7	2328.9	2117.4	1933.4	1800.0	1734.9	1732.2	1798.1
19.5°	2718.8	2734.6	2666.3	2519.9	2316.4	2101.2	1912.9	1779.1	1714.0	1710.8	1776.8
20°	2714.2	2730.0	2658.9	2510.2	2303.8	2084.9	1893.4	1757.7	1692.2	1688.9	1755.9
20.5°	2709.1	2724.9	2651.9	2500.9	2290.8	2068.2	1873.9	1736.3	1671.7	1668.0	1734.5
21°	2703.0	2719.3	2645.4	2491.6	2277.8	2051.4	1854.4	1715.9	1650.4	1646.6	1713.6



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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°	2677.5	2697.5	2621.2	2460.9	2237.3	2000.8	1794.4	1654.1	1589.0	1584.4	1650.8
23°	2663.1	2686.8	2611.5	2449.7	2222.9	1983.6	1774.9	1634.1	1568.1	1563.9	1629.9
23.5°	2646.8	2674.2	2600.8	2437.7	2208.1	1965.9	1754.5	1613.6	1548.6	1544.4	1609.5
24°	2629.6	2658.9	2586.8	2424.2	2192.7	1948.3	1734.5	1593.7	1528.6	1523.5	1588.5
24.5°	2610.5	2641.2	2571.5	2410.2	2176.9	1929.7	1714.0	1574.1	1508.6	1503.0	1568.1
25°	2588.7	2623.6	2555.2	2394.4	2161.1	1911.1	1694.5	1553.7	1488.6	1483.5	1547.6
25.5°	2566.4	2605.0	2537.6	2377.7	2143.5	1892.5	1674.5	1534.6	1469.6	1464.0	1527.2
26°	2544.1	2584.1	2519.0	2360.0	2126.3	1873.4	1654.5	1514.6	1450.0	1444.5	1506.7
26.5°	2519.5	2560.8	2499.5	2341.0	2107.2	1853.9	1633.6	1495.6	1430.5	1424.5	1486.3
27°	2493.4	2538.5	2479.0	2321.0	2088.6	1834.9	1613.6	1475.6	1411.0	1405.4	1465.8
27.5°	2466.0	2514.3	2456.7	2300.6	2068.6	1814.9	1593.7	1456.6	1392.4	1386.4	1446.3
28°	2440.0	2488.3	2433.5	2278.7	2049.1	1794.9	1573.7	1437.0	1372.9	1367.3	1425.9
28.5°	2410.7	2461.8	2409.8	2256.9	2028.2	1774.9	1553.2	1418.4	1354.8	1348.3	1405.9
29°	2381.4	2434.9	2385.1	2233.6	2007.3	1754.0	1533.2	1399.4	1335.7	1329.2	1385.9
29.5°	2351.7	2406.5	2359.1	2210.4	1985.4	1734.0	1513.7	1380.3	1316.7	1310.6	1365.9
30°	2321.9	2377.7	2332.6	2186.2	1964.5	1712.6	1493.3	1361.7	1298.1	1292.0	1346.4
30.5°	2289.9	2348.0	2305.2	2161.1	1941.8	1691.3	1473.3	1343.2	1279.9	1273.4	1326.4
31°	2258.3	2317.3	2276.8	2136.0	1919.0	1670.3	1453.3	1324.1	1261.4	1254.8	1306.4
31.5°	2226.2	2285.7	2248.0	2109.5	1895.7	1648.5	1433.3	1305.0	1243.7	1235.8	1286.5
32°	2193.7	2254.5	2218.8	2083.0	1873.0	1627.1	1413.3	1286.5	1225.1	1217.7	1267.4
32.5°	2160.7	2222.5	2188.1	2056.6	1848.8	1605.7	1393.8	1268.3	1207.4	1199.5	1247.4
33°	2128.1	2189.9	2157.9	2029.6	1824.6	1583.4	1373.4	1249.7	1189.3	1181.4	1227.9
33.5°	2095.1	2156.5	2126.7	2001.2	1800.5	1561.6	1353.8	1231.6	1171.7	1163.3	1207.9
34°	2061.7	2123.9	2095.1	1972.9	1775.8	1539.3	1333.4	1213.5	1154.0	1145.2	1188.9
34.5°	2026.8	2089.1	2061.7	1944.5	1750.7	1517.0	1313.9	1194.9	1136.3	1127.0	1169.3
35°	1993.3	2055.6	2029.6	1915.3	1725.6	1494.7	1293.9	1176.8	1118.7	1109.4	1149.8
35.5°	1959.9	2021.2	1997.1	1886.0	1700.5	1472.8	1274.4	1158.6	1101.9	1091.7	1130.8
36°	1926.4	1988.2	1964.1	1856.2	1675.0	1450.5	1254.4	1141.0	1083.8	1073.6	1112.2
36.5°	1892.0	1953.8	1930.6	1826.5	1649.4	1427.3	1234.9	1122.9	1067.1	1055.9	1092.6
37°	1857.2	1918.5	1898.1	1796.3	1623.4	1405.0	1214.9	1104.7	1049.0	1038.3	1073.6
37.5°	1824.2	1884.1	1864.6	1766.1	1597.4	1383.1	1195.4	1087.1	1032.2	1020.6	1055.0
38°	1790.2	1849.7	1831.1	1735.4	1571.3	1359.9	1175.4	1069.4	1014.6	1003.4	1035.9
38.5°	1756.3	1814.9	1796.8	1704.7	1545.3	1337.6	1156.8	1051.7	997.4	985.8	1016.9
39°	1721.9	1781.4	1764.2	1674.1	1519.3	1314.8	1136.8	1033.6	980.6	968.6	998.8
39.5°	1689.4	1747.0	1730.3	1643.4	1492.8	1292.5	1117.7	1016.0	963.9	950.9	979.7
40°	1655.9	1712.2	1697.3	1612.7	1466.3	1269.3	1098.2	998.3	946.2	933.7	961.6
40.5°	1622.0	1677.8	1663.4	1582.0	1439.8	1246.9	1078.7	980.2	929.1	916.0	942.5
41°	1589.0	1644.8	1631.3	1550.9	1413.3	1224.2	1059.6	963.0	912.3	898.4	924.9
41.5°	1556.9	1611.3	1597.8	1520.7	1387.8	1201.9	1040.6	945.3	895.6	881.2	906.3
42°	1524.9	1577.4	1565.8	1490.5	1360.8	1179.1	1021.1	927.7	878.4	864.4	888.2
42.5°	1492.3	1543.9	1533.2	1459.8	1334.8	1157.2	1002.0	910.5	861.2	847.3	870.5
43°	1461.2	1512.3	1500.7	1430.5	1308.8	1134.9	983.4	893.3	844.5	830.1	852.4
43.5°	1430.5	1479.8	1468.6	1399.9	1282.3	1112.6	963.9	875.6	827.7	812.9	833.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1339.0	1384.5	1375.2	1312.0	1204.2	1046.2	908.1	823.6	777.1	762.2	781.3
45.5°	1309.7	1353.8	1344.5	1282.3	1178.6	1024.3	889.1	805.9	760.8	745.5	763.6
46°	1279.9	1323.2	1314.3	1253.9	1153.1	1002.5	870.5	789.2	744.1	728.7	745.9
46.5°	1250.2	1293.4	1285.1	1225.6	1128.0	981.1	851.9	772.0	727.3	711.5	728.7
47°	1222.8	1264.1	1254.8	1197.7	1101.9	959.3	833.3	754.8	710.6	695.3	712.5
47.5°	1194.9	1234.4	1225.6	1169.3	1076.8	937.9	815.2	738.0	693.4	678.5	694.3
48°	1166.5	1205.1	1197.2	1141.9	1052.2	917.0	796.6	721.3	677.6	662.3	677.6
48.5°	1139.6	1178.2	1169.3	1115.4	1028.0	896.1	778.9	704.1	660.9	645.5	660.9
49°	1114.0	1150.3	1141.9	1088.9	1003.4	874.7	760.8	687.8	644.2	629.7	645.1
49.5°	1087.5	1122.4	1114.5	1062.4	979.2	854.7	742.7	671.1	627.9	613.5	627.9
50°	1061.0	1095.4	1087.1	1036.9	955.5	833.8	725.0	654.4	611.6	597.7	612.1
50.5°	1036.9	1069.9	1060.6	1010.4	931.8	813.3	707.4	637.6	594.9	581.9	595.8
51°	1011.8	1044.3	1034.1	985.8	909.1	793.3	689.7	621.4	579.1	565.6	580.0
51.5°	986.7	1017.8	1009.0	960.7	886.3	773.4	672.5	605.1	563.8	550.7	564.2
52°	963.4	993.7	984.4	936.5	863.1	753.8	655.3	589.3	547.5	535.9	548.9
52.5°	940.7	969.9	959.3	912.8	840.7	733.9	638.1	573.0	533.1	520.5	533.1
53°	916.5	944.9	935.1	888.6	818.9	714.8	621.4	557.2	525.2	505.7	518.2
53.5°	893.3	921.6	911.4	865.4	797.1	695.7	604.2	541.9	516.8	491.7	503.3
54°	872.4	898.8	887.7	842.6	775.2	676.7	587.9	526.6	507.5	483.3	488.9
54.5°	850.5	876.5	864.9	820.3	754.3	658.1	571.7	511.7	497.3	474.5	474.5
55°	828.2	854.2	842.6	798.0	733.9	640.0	555.9	497.3	487.5	465.2	460.6
55.5°	808.7	832.4	820.8	776.6	713.4	621.8	540.0	482.4	476.8	455.5	447.1
56°	787.8	811.0	798.9	754.8	693.0	604.2	524.2	471.7	466.6	445.7	433.6
56.5°	766.9	790.1	778.0	734.3	673.0	586.5	508.4	463.4	456.4	435.5	420.6
57°	746.9	769.2	757.1	713.9	653.9	569.3	493.6	454.1	445.7	425.7	408.1
57.5°	727.3	749.7	736.6	693.9	634.9	552.1	478.7	444.8	435.5	416.0	396.9
58°	706.4	729.7	716.7	673.9	616.3	535.9	464.3	435.0	425.7	406.2	385.7
58.5°	687.4	709.7	697.1	654.8	597.7	519.6	450.4	425.3	415.5	396.4	374.6
59°	667.4	690.6	677.6	635.8	579.6	503.3	436.4	415.0	405.3	387.1	363.4
59.5°	647.9	671.1	659.0	617.2	561.9	487.5	422.5	405.3	395.0	377.8	352.3
60°	629.7	652.1	640.4	598.6	544.7	472.2	409.0	396.0	384.8	368.1	343.9
60.5°	609.3	633.5	622.3	580.9	527.5	457.3	396.9	386.2	374.6	358.8	335.6
61°	591.6	613.5	603.7	563.3	511.2	442.4	384.8	376.5	364.4	349.0	327.2
61.5°	573.0	596.3	587.0	546.6	494.5	427.6	372.7	367.2	354.1	339.7	318.8
62°	555.4	578.2	569.8	529.4	478.7	414.1	360.7	357.4	343.5	330.4	310.5
62.5°	537.3	560.0	552.6	513.1	462.9	400.6	348.6	347.2	332.8	320.7	302.1
63°	519.1	542.8	535.9	496.4	447.6	387.6	336.9	337.4	322.1	310.9	293.7
63.5°	501.9	525.2	519.6	480.6	432.2	374.1	326.7	327.2	311.4	301.6	285.4
64°	484.3	508.4	503.8	464.8	417.4	361.1	317.0	317.4	300.7	291.9	277.9
64.5°	468.0	491.2	488.0	449.9	403.9	347.6	308.6	307.7	290.0	282.1	270.0
65°	451.3	475.4	472.7	435.0	389.9	336.0	300.7	298.4	279.8	272.8	262.1
65.5°	435.5	458.7	457.3	420.6	376.0	323.9	292.8	288.1	269.6	263.1	254.2
66°	418.7	443.4	442.4	406.2	362.5	311.4	284.4	278.9	259.3	253.8	246.8



TEST NUMBER: P776606

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRH-HCD4TRLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	372.7	396.9	398.8	364.8	323.5	278.9	260.7	250.5	229.6	226.3	224.0
68°	357.4	382.0	384.8	351.8	310.5	268.2	252.8	241.2	220.3	217.0	216.6
68.5°	342.5	367.6	371.3	338.3	298.8	257.9	245.4	232.4	211.5	208.7	209.1
69°	328.6	353.2	357.9	325.8	287.2	248.2	237.5	223.1	202.6	199.8	201.7
69.5°	314.2	338.8	343.9	313.2	275.6	238.4	229.6	214.3	194.7	191.9	194.3
70°	300.2	325.3	331.4	301.6	264.4	229.1	222.2	205.4	186.4	184.0	186.8
70.5°	286.3	311.9	318.8	289.1	253.3	220.3	214.7	197.5	178.5	176.1	179.4
71°	272.8	298.4	306.3	277.9	243.1	211.5	207.3	189.2	171.0	168.7	172.4
71.5°	259.8	285.4	293.3	266.3	232.4	203.1	199.8	181.3	163.6	161.3	165.0
72°	247.3	272.3	281.6	255.2	222.6	194.7	192.4	173.8	156.2	153.8	158.0
72.5°	234.2	260.3	269.6	244.5	212.4	186.8	185.0	166.4	148.7	146.9	151.0
73°	221.7	248.2	257.9	233.3	203.1	179.4	178.0	158.9	141.8	139.9	144.1
73.5°	209.6	235.6	246.3	223.1	193.3	171.5	170.6	152.0	134.8	132.9	137.1
74°	197.5	224.5	235.2	213.3	184.5	164.1	163.6	145.0	127.8	125.9	130.6
74.5°	185.9	212.9	224.5	203.1	175.7	157.1	157.1	138.0	121.3	119.4	124.6
75°	174.7	201.7	213.3	193.3	167.3	150.1	149.7	131.5	114.3	112.5	118.0
75.5°	164.1	190.6	202.6	184.0	158.9	143.1	143.1	125.0	107.8	106.0	112.0
76°	153.4	180.3	192.4	174.7	151.0	136.6	136.2	118.0	101.8	99.5	106.0
76.5°	143.1	169.6	182.2	165.9	143.1	130.1	130.1	111.5	95.3	93.4	99.9
77°	132.5	159.9	172.4	157.6	135.7	124.1	123.6	105.5	89.2	86.9	93.9
77.5°	122.2	150.6	163.1	148.7	127.8	118.0	117.6	99.5	83.2	80.9	88.3
78°	112.5	140.8	154.3	140.4	120.8	112.0	111.1	93.0	77.1	74.8	82.3
78.5°	102.2	131.1	145.0	132.0	113.4	106.4	105.5	86.9	71.1	68.8	76.7
79°	93.0	121.8	135.7	124.1	106.9	101.3	99.5	80.9	65.5	63.2	71.1
79.5°	83.7	112.9	126.9	116.2	99.9	95.7	93.4	75.3	60.0	57.6	65.5
80°	74.8	104.1	118.0	108.8	93.4	90.6	87.8	69.2	54.4	52.1	60.4
80.5°	66.0	95.3	110.1	101.3	87.4	85.5	82.3	63.7	48.8	46.9	55.3
81°	57.6	87.4	102.2	94.3	81.3	80.4	76.7	58.1	43.7	42.3	50.7
81.5°	49.3	79.5	93.9	87.4	75.8	75.3	71.6	53.0	38.6	37.6	45.5
82°	40.9	72.0	86.4	80.9	70.2	70.2	66.0	47.4	33.5	33.0	41.4
82.5°	33.5	64.6	79.5	74.4	64.6	65.1	60.9	43.2	28.4	28.4	37.2
83°	26.0	57.6	72.5	68.3	59.5	60.4	55.8	38.6	23.2	23.7	33.0
83.5°	19.1	51.1	66.0	62.3	54.4	55.8	51.1	33.9	18.6	20.4	28.8
84°	16.7	45.1	59.5	56.2	49.7	50.7	46.5	29.7	14.9	17.7	24.6
84.5°	13.9	40.0	53.4	50.7	45.1	46.5	42.3	25.1	12.1	15.3	20.9
85°	11.2	35.3	47.4	45.1	40.9	41.8	37.6	22.3	10.7	13.0	17.2
85.5°	8.4	30.7	41.8	40.0	36.3	37.6	33.5	19.5	8.8	10.7	13.5
86°	6.0	26.5	36.3	34.9	32.1	33.0	29.3	16.7	7.4	8.4	10.2
86.5°	4.6	22.3	30.7	29.7	27.4	28.4	24.6	13.9	6.0	6.5	6.5
87°	3.3	18.1	25.6	25.1	23.2	24.2	20.9	11.6	4.6	4.2	3.3
87.5°	2.3	13.9	20.4	20.4	19.5	20.0	16.7	8.8	2.8	2.3	0.9
88°	0.9	10.2	15.8	16.3	15.8	16.3	13.0	6.5	1.4	0.9	0.5
88.5°	0.5	6.5	12.1	12.5	12.1	12.1	9.3	3.7	0.5	0.5	0.0



TEST NUMBER: P776606

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRH-HCD4TRLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.5	0.5	1.4	2.3	1.9	0.9	0.5	0.0	0.5	0.0



TEST NUMBER: P776606

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRH-HCD4TRLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2517.6	2517.6	2517.6	2517.6	2517.6	2517.6
0.5°	2509.2	2507.4	2515.7	2524.6	2532.0	2537.1
1°	2499.0	2503.2	2518.1	2532.9	2545.0	2553.4
1.5°	2488.3	2498.5	2519.5	2540.4	2557.6	2568.7
2°	2477.2	2492.5	2520.4	2547.8	2570.1	2583.6
2.5°	2465.5	2487.4	2521.3	2554.8	2581.3	2598.0
3°	2453.9	2481.3	2521.3	2560.8	2592.4	2611.5
3.5°	2441.4	2474.8	2521.3	2566.9	2603.1	2625.0
4°	2428.8	2467.9	2520.4	2572.0	2612.9	2638.0
4.5°	2416.3	2460.0	2519.0	2576.6	2622.6	2650.1
5°	2402.3	2452.1	2517.6	2580.8	2631.5	2662.1
5.5°	2388.9	2444.2	2515.3	2584.5	2640.3	2672.8
6°	2374.9	2435.3	2512.9	2587.3	2647.7	2683.5
6.5°	2361.0	2426.0	2509.2	2590.1	2655.2	2693.3
7°	2346.1	2416.7	2506.0	2592.0	2661.2	2702.6
7.5°	2331.2	2406.5	2501.8	2593.3	2667.2	2711.4
8°	2315.9	2396.3	2496.7	2594.3	2672.4	2719.3
8.5°	2300.1	2385.1	2491.6	2594.3	2677.0	2726.3
9°	2284.3	2374.4	2486.0	2594.3	2681.2	2733.2
9.5°	2268.5	2362.8	2479.9	2593.3	2684.4	2739.3
10°	2252.2	2351.2	2473.4	2591.5	2687.2	2744.9
10.5°	2235.5	2338.7	2466.5	2589.6	2689.6	2749.5
11°	2218.3	2326.6	2458.6	2586.8	2690.9	2753.2
11.5°	2201.1	2313.1	2450.2	2583.6	2691.4	2756.5
12°	2183.9	2300.1	2441.8	2579.4	2691.4	2758.8
12.5°	2166.2	2286.1	2432.5	2574.8	2690.5	2760.7
13°	2149.0	2272.2	2423.2	2569.6	2689.1	2761.6
13.5°	2131.4	2257.8	2413.5	2564.1	2686.8	2762.1
14°	<i>2112.8</i>	<i>2243.9</i>	<i>2403.3</i>	<i>2558.0</i>	<i>2684.0</i>	<i>2761.1</i>
14.5°	2094.2	2229.0	2392.6	2551.5	2680.7	2760.2
15°	2076.1	2214.1	2381.9	2544.1	2676.5	2758.3
15.5°	2057.9	2199.2	2370.7	2536.2	2671.9	2755.6
16°	2039.4	2184.8	2359.6	2528.3	2666.8	2752.8
16.5°	2020.8	2169.5	2348.0	2520.4	2661.2	2748.6
17°	2003.1	2154.6	2336.8	2511.6	2655.2	2744.4
17.5°	1984.1	2139.7	2325.6	2502.7	2648.7	2739.3
18°	1965.0	2124.4	2314.5	2495.3	2641.7	2734.2
18.5°	1945.9	2109.1	2302.4	2487.4	2636.1	2728.1
19°	1927.4	2093.3	2291.3	2479.0	2631.0	2723.0
19.5°	1908.8	2077.9	2278.2	2469.7	2625.4	2718.8
20°	1890.2	2061.2	2264.8	2460.0	2618.4	2714.2
20.5°	1871.1	2044.5	2251.3	2449.7	2611.0	2709.1
21°	1851.6	2026.8	2236.4	2438.1	2602.6	2703.0



TEST NUMBER: P776606

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRH-HCD4TRLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1792.6	1972.4	2185.3	2392.1	2565.9	2677.5
23°	1772.1	1953.4	2166.2	2373.1	2549.2	2663.1
23.5°	1752.1	1933.4	2145.8	2353.5	2531.1	2646.8
24°	1731.7	1912.5	2124.9	2332.6	2511.6	2629.6
24.5°	1711.7	1891.6	2102.1	2309.8	2491.1	2610.5
25°	1690.8	1870.2	2080.3	2287.1	2468.8	2588.7
25.5°	1669.9	1848.3	2057.5	2264.3	2444.6	2566.4
26°	1648.5	1826.0	2033.8	2240.1	2420.5	2544.1
26.5°	1627.1	1804.2	2009.6	2214.6	2395.4	2519.5
27°	1606.2	1781.9	1985.4	2189.5	2368.4	2493.4
27.5°	1584.4	1758.6	1960.8	2162.5	2340.1	2466.0
28°	1562.5	1734.9	1935.7	2134.6	2311.7	2440.0
28.5°	1540.7	1712.6	1910.2	2107.2	2283.4	2410.7
29°	1518.8	1688.5	1884.1	2079.3	2254.1	2381.4
29.5°	1497.0	1665.2	1858.6	2049.6	2223.4	2351.7
30°	1474.7	1641.1	1832.5	2020.8	2193.7	2321.9
30.5°	1452.4	1617.4	1805.1	1990.6	2161.6	2289.9
31°	1430.1	1593.2	1778.6	1960.8	2130.5	2258.3
31.5°	1408.2	1569.0	1751.2	1931.1	2098.4	2226.2
32°	1386.4	1543.9	1723.3	1899.5	2066.3	2193.7
32.5°	1363.6	1520.2	1696.4	1869.3	2033.3	2160.7
33°	1341.8	1495.1	1668.5	1838.6	2001.7	2128.1
33.5°	1319.9	1471.4	1641.1	1807.9	1969.2	2095.1
34°	1298.5	1446.3	1612.2	1777.2	1936.6	2061.7
34.5°	1276.2	1422.2	1584.4	1745.6	1903.6	2026.8
35°	1253.9	1397.1	1556.0	1715.0	1871.1	1993.3
35.5°	1232.1	1373.4	1528.6	1684.3	1838.1	1959.9
36°	1210.7	1349.7	1500.2	1653.6	1806.5	1926.4
36.5°	1188.9	1324.6	1472.4	1623.4	1773.5	1892.0
37°	1167.5	1299.9	1444.9	1592.7	1741.4	1857.2
37.5°	1145.6	1276.2	1416.6	1562.5	1708.0	1824.2
38°	1124.7	1252.1	1389.2	1532.3	1675.9	1790.2
38.5°	1103.3	1227.9	1361.7	1503.0	1644.3	1756.3
39°	1082.9	1203.7	1334.3	1473.3	1611.8	1721.9
39.5°	1061.5	1180.0	1307.8	1444.0	1581.1	1689.4
40°	1040.1	1156.3	1279.9	1414.3	1549.0	1655.9
40.5°	1019.7	1132.6	1254.4	1385.9	1518.4	1622.0
41°	999.2	1108.9	1227.9	1356.6	1485.8	1589.0
41.5°	978.8	1085.2	1201.9	1329.2	1456.6	1556.9
42°	958.3	1062.4	1175.8	1301.3	1426.8	1524.9
42.5°	938.3	1039.7	1150.7	1273.9	1396.6	1492.3
43°	917.9	1016.9	1125.6	1246.0	1365.9	1461.2
43.5°	898.4	994.6	1100.5	1219.5	1337.6	1430.5



TEST NUMBER: P776606

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRH-HCD4TRLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	839.4	928.1	1028.0	1141.0	1251.1	1339.0
45.5°	819.8	906.7	1004.8	1115.4	1224.6	1309.7
46°	801.2	885.4	981.6	1089.9	1197.7	1279.9
46.5°	782.2	864.0	958.3	1065.7	1170.7	1250.2
47°	762.7	843.5	936.0	1041.1	1142.8	1222.8
47.5°	744.5	822.6	913.7	1016.9	1117.3	1194.9
48°	726.4	802.2	891.9	992.7	1092.2	1166.5
48.5°	708.3	782.2	870.0	969.9	1067.1	1139.6
49°	690.6	762.7	848.6	947.2	1041.5	1114.0
49.5°	672.5	743.6	827.7	924.9	1017.8	1087.5
50°	654.8	724.1	807.3	901.6	993.2	1061.0
50.5°	637.6	705.5	786.4	880.3	969.5	1036.9
51°	620.5	686.9	766.9	858.4	945.8	1011.8
51.5°	604.2	668.8	746.9	837.5	923.9	986.7
52°	587.5	651.1	727.8	817.0	901.2	963.4
52.5°	571.2	633.5	708.3	795.7	878.9	940.7
53°	554.9	615.8	690.2	775.7	857.5	916.5
53.5°	539.6	598.6	671.1	755.7	836.1	893.3
54°	524.2	581.9	653.0	736.2	814.7	872.4
54.5°	508.4	564.7	634.4	717.1	794.7	850.5
55°	493.6	548.9	617.7	698.1	774.3	828.2
55.5°	479.2	532.6	600.5	679.5	754.3	808.7
56°	464.8	516.8	583.3	661.4	734.3	787.8
56.5°	450.4	501.5	566.5	643.2	715.7	766.9
57°	436.4	486.1	550.3	625.6	696.7	746.9
57.5°	423.4	470.8	533.5	607.9	678.1	727.3
58°	409.9	456.9	517.7	591.2	660.4	706.4
58.5°	397.4	442.0	501.9	574.4	642.3	687.4
59°	385.3	428.0	486.6	558.2	624.6	667.4
59.5°	372.7	414.1	471.7	541.4	607.0	647.9
60°	360.2	400.2	456.9	525.2	589.3	629.7
60.5°	347.6	386.7	442.0	509.8	572.1	609.3
61°	336.0	373.7	428.0	494.5	554.9	591.6
61.5°	324.4	360.7	413.6	479.2	537.7	573.0
62°	313.7	348.1	400.2	464.3	521.0	555.4
62.5°	303.0	336.0	386.2	449.4	503.8	537.3
63°	291.9	323.9	373.2	435.0	487.5	519.1
63.5°	281.6	311.9	359.7	421.1	471.3	501.9
64°	271.9	300.2	347.2	407.1	455.5	484.3
64.5°	262.1	289.1	334.6	393.2	440.1	468.0
65°	252.8	277.9	322.5	380.2	424.3	451.3
65.5°	243.5	266.8	310.0	366.2	409.5	435.5
66°	234.2	256.5	298.4	353.2	394.1	418.7



TEST NUMBER: P776606

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRH-HCD4TRLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	209.1	226.3	264.0	315.6	351.4	372.7
68°	201.2	217.0	253.3	303.5	337.4	357.4
68.5°	193.8	207.3	242.6	290.9	323.9	342.5
69°	186.4	198.5	232.4	279.3	310.5	328.6
69.5°	178.9	189.6	222.2	267.7	297.4	314.2
70°	172.4	181.3	212.4	256.5	284.0	300.2
70.5°	165.9	172.9	202.6	244.9	271.4	286.3
71°	159.9	167.3	193.3	234.2	258.9	272.8
71.5°	153.4	159.4	184.0	223.5	246.8	259.8
72°	147.3	151.5	175.2	212.9	235.2	247.3
72.5°	141.3	143.1	165.5	202.6	223.5	234.2
73°	135.7	135.2	157.6	192.4	211.9	221.7
73.5°	129.7	128.3	149.7	182.6	200.8	209.6
74°	124.1	121.3	141.8	172.9	190.1	197.5
74.5°	118.5	114.8	133.9	164.1	179.4	185.9
75°	112.5	107.8	126.4	154.8	169.6	174.7
75.5°	107.4	101.8	119.0	145.9	159.9	164.1
76°	101.8	95.7	111.5	136.6	150.6	153.4
76.5°	96.2	89.7	104.1	127.8	140.8	143.1
77°	90.6	84.1	97.6	119.4	131.5	132.5
77.5°	85.5	78.5	90.6	111.5	121.8	122.2
78°	80.4	73.4	84.6	103.6	113.4	112.5
78.5°	75.3	68.3	78.1	95.7	104.6	102.2
79°	70.2	63.2	72.0	88.8	96.2	93.0
79.5°	65.1	58.1	66.5	81.3	88.3	83.7
80°	60.0	53.4	60.4	74.4	80.4	74.8
80.5°	55.3	48.8	55.3	67.9	73.4	66.0
81°	50.7	44.2	50.2	61.3	66.5	57.6
81.5°	46.0	40.0	44.6	55.3	59.5	49.3
82°	41.4	35.8	40.0	49.3	53.0	40.9
82.5°	37.2	31.6	35.3	43.7	47.4	33.5
83°	32.5	27.4	30.7	38.6	41.4	26.0
83.5°	28.4	23.2	26.0	33.5	36.3	19.1
84°	23.7	19.5	21.8	28.4	31.6	16.7
84.5°	19.5	15.8	17.7	23.7	27.4	13.9
85°	15.3	12.5	13.9	19.1	23.2	11.2
85.5°	11.6	9.3	10.2	15.3	19.1	8.4
86°	7.9	6.0	7.0	11.6	15.3	6.0
86.5°	4.2	2.3	3.3	7.9	12.1	4.6
87°	1.4	0.5	0.9	4.2	8.4	3.3
87.5°	0.5	0.0	0.5	0.9	4.6	2.3
88°	0.0	0.0	0.0	0.0	0.9	0.9
88.5°	0.0	0.0	0.0	0.0	0.5	0.5



TEST NUMBER: P776606

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRH-HCD4TRLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.5	0.0



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Peachtree City, GA 30269

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°	2696.1	2712.8	2638.0	2481.8	2264.8	2034.7	1834.4	1695.0	1629.9	1625.7	1692.2
22°	2688.2	2705.8	2630.1	2471.6	2250.8	2017.5	1814.0	1674.5	1609.5	1604.8	1671.3



44°	1398.9	1447.3	1438.0	1370.1	1255.8	1089.9	945.3	857.9	810.5	796.1	816.1
44.5°	1368.2	1414.7	1406.4	1340.8	1229.7	1068.0	926.7	840.7	793.8	778.9	798.9



66.5°	403.4	427.6	427.6	392.3	348.6	300.2	276.5	269.6	249.1	244.5	238.9
67°	387.6	411.8	413.2	377.8	336.0	289.5	268.6	259.8	239.4	235.2	231.4



89°	0.0	2.8	8.4	8.8	8.4	8.4	5.6	1.9	0.0	0.5	0.0
89.5°	0.0	0.5	4.6	5.1	5.1	4.6	2.8	0.5	0.0	0.5	0.0

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21.5°	1832.1	2009.1	2221.1	2424.6	2592.9	2696.1
22°	1812.6	1991.5	2203.9	2409.8	2580.3	2688.2



44°	878.4	971.3	1075.9	1192.6	1309.2	1398.9
44.5°	858.9	949.5	1051.7	1167.0	1280.9	1368.2



66.5°	225.9	246.3	286.8	340.7	379.7	403.4
67°	217.5	236.1	275.1	327.7	365.3	387.6

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89°	0.0	0.0	0.0	0.0	0.5	0.0
89.5°	0.0	0.0	0.0	0.0	0.5	0.0

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(END OF REPORT)