

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: P776686

Luminaire Tested: HCDJBS4050CSD-HCD62TRMB-5000lm-3000K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776686  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B058)  
Test Lab:  
Issue Date: 2/13/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBS4050CSD-HCD62TRMB-5000lm-3000K  
Description: 6 INCH ROUND NARROW MATTE BLACK TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

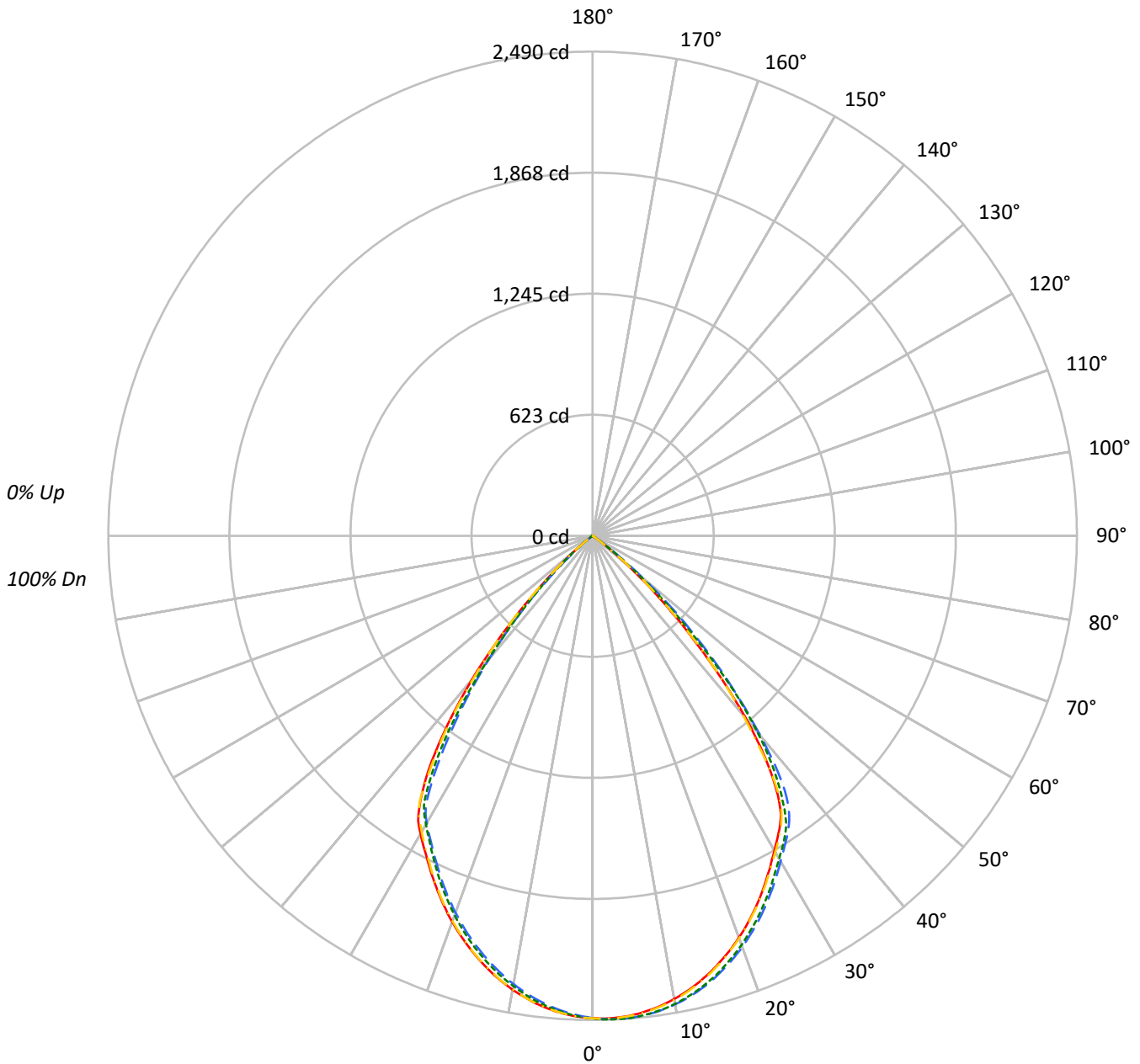
Lumens per Lamp: N/A  
Luminaire Lumens: 3240.8 lumens  
Efficiency: N/A  
Efficacy: 67.5 lumens/watt  
Spacing Criteria (0/90/45): 1.11 / 1.11 / 1.11  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

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					100			
1	113	110	107	105	111	108	105	103	104	102	100	100	98	97	97	95	94	92					92			
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85					85			
3	101	94	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77					77			
4	95	86	80	76	93	85	80	75	83	78	74	81	77	73	79	75	72	71					71			
5	89	80	73	69	87	79	73	68	77	72	68	75	71	67	74	70	66	65					65			
6	84	74	67	63	82	73	67	62	72	66	62	70	65	62	69	64	61	60					60			
7	79	69	62	57	78	68	62	57	67	61	57	65	60	57	64	60	56	55					55			
8	75	64	57	53	73	63	57	53	62	57	52	61	56	52	60	56	52	51					51			
9	70	60	53	49	69	59	53	49	58	53	49	57	52	48	56	52	48	47					47			
10	67	56	50	45	66	55	49	45	55	49	45	54	49	45	53	48	45	44					44			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	136053	136053	136053	136053
5°	136033	136748	134652	134162
10°	134656	136053	131939	130904
15°	132038	133962	128054	126493
20°	128292	130626	123246	121157
25°	123570	126237	117521	114738
30°	118366	121398	112043	108510
35°	112009	115121	98323	92842
40°	87636	94327	68807	60986
45°	51540	59510	34748	30492
50°	20298	24545	10149	10192
55°	2972	3861	841	1023
60°	658	713	614	504
65°	480	480	428	363
70°	369	369	305	305
75°	297	297	191	191
80°	158	158	158	158
85°	0	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 65813 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	232.7	7.2
10°-20°	644.5	19.9
20°-30°	916.4	28.3
30°-40°	946.3	29.2
40°-50°	452.2	14.0
50°-60°	43.7	1.3
60°-70°	3.6	0.1
70°-80°	1.3	0.0
80°-90°	0.2	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°	1793.6	55.3
0°-40°	2739.9	84.5
0°-60°	3235.8	99.8
0°-90°	3240.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3240.8	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2482	2482	2482	2482	2482	
5°	2472	2485	2447	2438	2472	234
15°	2326	2360	2256	2229	2326	654
25°	2043	2087	1943	1897	2043	939
35°	1674	1720	1469	1387	1674	1013
45°	665	768	448	393	665	521
55°	31	40	9	11	31	56
65°	4	4	3	3	4	4
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	0	0	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°	2481.8	2481.8	2481.8	2481.8	2481.8	2481.8	2481.8	2481.8	2481.8	2481.8	2481.8
0.5°	2482.2	2482.2	2482.7	2481.8	2485.5	2484.5	2483.1	2482.7	2479.9	2478.5	2476.6
1°	2483.1	2483.6	2484.5	2484.1	2487.3	2485.5	2484.1	2482.2	2478.0	2475.7	2473.8
1.5°	2483.1	2484.5	2485.9	2485.9	2488.3	2486.4	2484.5	2481.3	2475.2	2472.5	2469.7
2°	2483.1	2485.5	2487.3	2487.8	2489.7	2487.3	2484.1	2479.4	2472.9	2468.7	2465.5
2.5°	2482.2	2485.5	2488.3	2488.7	2489.7	2487.3	2483.6	2477.1	2469.7	2465.0	2460.8
3°	2480.8	2485.5	2488.3	2489.2	2489.7	2486.9	2482.2	2475.2	2465.9	2460.4	2455.7
3.5°	2479.4	2484.5	2488.3	2489.7	2489.2	2485.9	2480.8	2472.5	2462.2	2455.7	2450.1
4°	2477.6	2483.1	2487.3	2489.2	2488.3	2485.0	2479.0	2468.7	2457.6	2450.1	2444.1
4.5°	2475.2	2481.3	2486.4	2488.7	2487.3	2483.1	2476.6	2465.0	2452.9	2444.1	2438.0
5°	2472.0	2479.0	2485.0	2487.3	2485.0	2480.8	2473.8	2460.8	2446.9	2438.0	2431.5
5.5°	2468.7	2477.1	2483.6	2485.9	2482.7	2478.5	2470.6	2456.6	2440.8	2431.1	2424.1
6°	2465.0	2474.3	2481.3	2483.6	2480.4	2475.7	2466.9	2452.5	2434.8	2424.6	2416.2
6.5°	2460.4	2471.1	2478.5	2481.8	2477.1	2472.0	2463.2	2446.9	2428.3	2417.1	2407.8
7°	2455.7	2466.9	2475.2	2479.0	2473.8	2468.3	2458.5	2441.3	2421.3	2408.8	2399.5
7.5°	2450.6	2462.7	2471.5	2475.7	2469.7	2464.1	2453.9	2435.3	2413.9	2400.4	2390.6
8°	2445.5	2458.0	2467.8	2472.5	2465.9	2459.4	2448.3	2428.8	2405.5	2392.0	2381.8
8.5°	2439.4	2452.9	2463.2	2467.8	2460.8	2454.3	2442.7	2421.8	2397.1	2382.7	2372.0
9°	2432.9	2447.8	2458.5	2463.6	2455.7	2449.2	2436.2	2413.9	2389.2	2373.4	2362.3
9.5°	2426.4	2441.8	2453.4	2458.5	2450.1	2442.7	2429.7	2406.4	2379.9	2363.7	2351.6
10°	2419.0	2435.3	2447.3	2452.9	2444.1	2436.7	2422.7	2397.6	2370.2	2353.4	2341.3
10.5°	2411.5	2428.3	2441.3	2447.3	2437.6	2430.1	2415.3	2389.2	2360.4	2342.3	2330.2
11°	2403.6	2421.3	2435.3	2440.8	2430.6	2422.7	2407.4	2380.4	2350.2	2331.6	2318.6
11.5°	2395.7	2413.9	2427.8	2434.3	2423.2	2414.8	2399.5	2371.1	2340.0	2320.4	2306.5
12°	2386.9	2405.5	2420.8	2427.4	2415.3	2407.4	2390.6	2361.3	2328.8	2309.3	2294.9
12.5°	2377.1	2397.1	2412.9	2419.9	2407.4	2399.0	2381.3	2351.1	2317.6	2297.2	2281.8
13°	2367.8	2388.3	2404.6	2412.0	2398.5	2390.6	2372.0	2340.9	2306.0	2284.6	2269.7
13.5°	2358.1	2379.5	2395.7	2404.1	2389.7	2380.9	2362.7	2329.3	2293.5	2272.5	2256.7
14°	2347.9	2370.2	2386.9	2394.8	2380.4	2371.6	2352.0	2318.6	2281.4	2259.5	2243.2
14.5°	2337.2	2360.4	2377.1	2386.0	2370.2	2360.9	2341.3	2306.9	2268.8	2246.5	2229.3
15°	2326.5	2350.2	2367.8	2376.2	2360.4	2350.2	2330.7	2294.4	2256.3	2233.0	2215.4
15.5°	2315.3	2339.0	2358.1	2366.0	2350.2	2339.0	2319.0	2282.3	2243.2	2219.1	2201.9
16°	2303.2	2327.9	2346.9	2355.8	2339.0	2327.9	2307.4	2269.7	2229.3	2205.1	2187.5
16.5°	2291.1	2316.7	2335.8	2345.1	2327.9	2316.7	2295.8	2256.7	2215.8	2190.2	2173.0
17°	2279.0	2305.1	2324.1	2334.4	2315.8	2305.1	2283.2	2243.7	2201.9	2176.3	2157.7
17.5°	2266.5	2293.0	2313.0	2322.7	2303.7	2292.5	2270.7	2230.7	2187.5	2161.9	2142.4
18°	2253.9	2280.4	2300.9	2310.7	2291.1	2280.0	2257.7	2216.7	2173.0	2146.5	2126.6
18.5°	2240.9	2267.4	2288.3	2298.6	2278.6	2266.5	2243.7	2202.8	2158.2	2131.2	2111.2
19°	2226.5	2254.9	2276.3	2286.5	2265.6	2253.9	2230.7	2188.4	2143.3	2115.4	2095.4
19.5°	2213.0	2241.9	2263.2	2273.5	2252.5	2240.0	2217.2	2174.0	2127.9	2100.1	2078.7
20°	2199.1	2228.4	2250.2	2260.4	2239.1	2226.5	2203.3	2158.6	2112.6	2083.8	2061.9
20.5°	2184.7	2214.4	2236.7	2247.0	2225.1	2212.1	2188.9	2144.2	2096.3	2067.0	2045.2
21°	2170.7	2200.5	2222.8	2233.5	2210.2	2198.1	2174.0	2128.4	2080.1	2050.8	2028.0



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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°	2124.7	2156.3	2179.6	2189.8	2166.1	2153.5	2128.4	2081.0	2030.3	1999.2	1975.9
23°	2108.9	2140.0	2164.7	2175.4	2150.7	2138.2	2112.6	2064.7	2012.6	1981.5	1957.3
23.5°	2092.6	2124.7	2149.3	2159.6	2134.9	2122.4	2096.8	2048.0	1995.4	1963.8	1939.2
24°	2075.9	2108.4	2134.0	2145.1	2119.1	2106.6	2080.5	2031.2	1977.8	1946.2	1920.6
24.5°	2059.6	2093.1	2118.2	2129.3	2102.8	2090.3	2064.3	2014.5	1960.6	1927.6	1902.5
25°	2042.9	2076.3	2102.4	2113.1	2087.0	2074.0	2047.5	1997.3	1942.9	1909.9	1883.4
25.5°	2025.7	2059.6	2085.6	2096.8	2070.3	2057.3	2030.8	1980.1	1924.8	1891.3	1864.8
26°	2008.9	2043.8	2069.4	2080.5	2054.0	2040.5	2014.0	1962.4	1907.1	1873.2	1846.2
26.5°	1991.3	2027.1	2052.6	2064.3	2037.3	2023.3	1996.8	1945.2	1889.4	1854.6	1828.5
27°	1974.1	2010.3	2035.9	2047.5	2020.5	2006.6	1979.6	1927.6	1870.8	1836.9	1809.9
27.5°	1956.4	1992.7	2019.2	2030.3	2003.3	1989.4	1962.4	1909.4	1853.6	1819.2	1792.3
28°	1939.2	1975.5	2002.0	2013.6	1985.7	1972.7	1944.8	1892.2	1836.4	1802.5	1774.6
28.5°	1921.1	1958.3	1985.2	1995.9	1968.0	1955.0	1927.6	1875.5	1820.2	1785.3	1758.3
29°	1903.4	1941.0	1968.0	1979.2	1951.3	1937.8	1910.8	1858.3	1803.4	1768.1	1740.7
29.5°	1886.7	1923.8	1950.8	1962.4	1934.5	1921.1	1894.6	1842.0	1786.2	1750.9	1723.5
30°	1869.9	1907.1	1934.1	1945.2	1917.8	1904.8	1877.8	1825.3	1770.0	1734.2	1706.3
30.5°	1853.2	1890.4	1917.3	1928.5	1901.5	1888.0	1862.0	1809.5	1753.2	1716.5	1687.2
31°	1836.9	1874.6	1901.5	1912.2	1886.2	1872.2	1845.7	1793.2	1735.6	1697.9	1667.7
31.5°	1820.2	1858.3	1885.3	1896.4	1869.9	1856.4	1829.9	1776.5	1717.0	1675.1	1642.6
32°	1803.9	1842.0	1869.0	1880.1	1854.1	1840.6	1813.7	1758.8	1690.0	1644.4	1608.6
32.5°	1787.6	1825.7	1853.6	1864.8	1837.8	1824.8	1796.9	1739.7	1659.8	1608.6	1569.6
33°	1770.4	1809.5	1837.4	1848.1	1821.1	1806.7	1778.8	1717.0	1625.8	1567.7	1524.9
33.5°	1751.8	1792.7	1821.1	1832.7	1802.0	1788.6	1759.3	1689.1	1589.6	1524.0	1478.9
34°	1731.8	1774.1	1803.0	1815.1	1779.7	1767.2	1737.4	1657.9	1552.4	1477.5	1429.6
34.5°	1704.9	1754.1	1784.4	1796.0	1751.4	1742.1	1713.2	1622.6	1511.9	1432.0	1380.8
35°	1673.7	1730.4	1762.5	1772.3	1720.2	1712.3	1685.3	1585.8	1469.2	1385.9	1330.6
35.5°	1639.8	1703.9	1738.8	1744.4	1686.7	1679.8	1653.7	1546.3	1424.5	1339.4	1282.7
36°	1602.1	1671.9	1710.0	1712.8	1653.3	1644.4	1617.0	1504.5	1375.7	1294.3	1231.6
36.5°	1564.5	1637.5	1678.8	1678.8	1617.5	1605.8	1573.8	1459.4	1326.0	1249.2	1182.8
37°	1523.1	1597.5	1642.6	1643.0	1581.2	1565.4	1524.5	1412.9	1274.4	1200.4	1133.5
37.5°	1479.4	1554.7	1602.1	1606.8	1542.1	1521.7	1471.5	1362.2	1224.6	1152.1	1084.7
38°	1432.4	1506.3	1554.7	1568.2	1502.6	1476.6	1414.3	1309.2	1172.5	1100.5	1034.0
38.5°	1383.1	1455.7	1505.9	1527.3	1458.5	1429.2	1359.4	1253.0	1120.5	1049.3	982.8
39°	1331.5	1400.3	1452.4	1484.5	1413.8	1378.5	1304.6	1198.1	1067.5	995.9	932.6
39.5°	1279.0	1345.9	1396.2	1438.5	1366.4	1326.9	1253.0	1139.5	1015.9	943.8	882.9
40°	1224.6	1289.2	1340.8	1391.5	1318.1	1271.6	1200.9	1081.4	961.5	891.3	832.2
40.5°	1169.3	1230.6	1286.0	1342.7	1267.4	1216.7	1151.1	1023.8	908.5	842.0	783.4
41°	1110.7	1172.1	1232.0	1290.6	1217.6	1162.8	1099.5	967.0	854.5	790.8	735.0
41.5°	1052.6	1117.7	1179.5	1237.6	1164.2	1109.3	1047.5	910.3	800.1	742.5	687.6
42°	993.1	1062.8	1126.0	1181.8	1110.2	1056.8	993.5	855.9	744.8	693.2	640.2
42.5°	935.9	1008.0	1074.4	1127.4	1053.0	1004.7	938.2	802.9	690.9	644.4	592.8
43°	878.7	953.1	1021.0	1071.2	996.3	952.2	884.3	750.8	637.9	594.6	546.7
43.5°	824.3	899.2	968.4	1016.3	937.7	900.1	831.7	699.2	587.2	547.2	502.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	664.8	738.3	807.6	848.9	767.6	742.0	679.7	557.0	448.2	413.3	377.1
45.5°	616.0	686.7	757.4	795.5	711.3	690.4	630.4	512.3	406.3	370.5	335.2
46°	566.3	636.9	706.2	741.6	657.9	639.7	582.1	471.4	364.5	327.3	293.4
46.5°	517.9	589.5	657.4	689.5	604.4	590.5	535.1	430.5	322.7	284.5	257.6
47°	471.4	544.0	608.6	637.9	553.3	541.2	487.2	389.6	287.3	248.7	223.2
47.5°	426.8	499.3	561.2	586.7	503.5	493.3	445.4	348.7	253.4	214.3	192.0
48°	384.5	456.1	514.7	536.5	460.3	448.2	403.6	307.8	221.8	181.8	163.7
48.5°	344.0	414.7	467.7	488.2	417.0	403.1	361.7	271.0	192.9	153.9	138.1
49°	305.9	374.3	423.1	440.3	373.8	358.0	320.3	237.1	166.0	128.8	115.3
49.5°	270.6	335.7	379.8	396.1	330.6	312.9	284.5	206.4	141.8	106.5	95.8
50°	238.0	298.5	338.0	352.9	287.8	272.0	247.8	176.7	119.0	87.9	78.6
50.5°	207.8	262.2	298.9	311.5	250.1	234.3	213.9	149.7	99.0	72.5	64.6
51°	179.0	227.8	259.9	273.4	215.7	198.5	181.8	126.0	80.9	62.3	55.3
51.5°	154.4	194.8	224.1	236.2	184.1	167.4	153.0	104.1	69.7	51.6	46.0
52°	133.4	165.0	191.5	202.7	153.9	138.5	124.1	84.6	58.6	41.4	36.7
52.5°	112.5	143.2	159.9	170.6	126.5	112.5	99.5	72.5	47.4	31.1	27.4
53°	91.6	120.9	137.6	147.4	101.4	90.2	78.1	60.4	36.3	20.9	18.1
53.5°	70.7	98.6	115.3	124.1	79.5	71.6	65.6	48.8	25.1	15.3	13.0
54°	55.8	76.2	93.0	101.4	66.5	59.5	53.0	37.2	13.9	11.2	9.8
54.5°	42.3	54.4	70.7	78.1	53.5	47.9	40.9	25.1	10.2	8.8	8.4
55°	31.1	39.5	48.4	55.3	40.4	36.3	28.4	13.5	8.8	7.9	7.9
55.5°	21.4	28.4	34.9	40.4	27.0	24.6	15.8	9.8	7.9	7.9	7.4
56°	14.4	19.1	23.7	28.4	13.9	13.0	11.2	8.4	7.9	7.4	7.0
56.5°	12.6	16.7	15.8	18.6	10.2	9.8	8.8	7.9	7.4	7.0	7.0
57°	10.7	14.4	13.9	15.8	8.8	8.4	8.4	7.9	7.0	7.0	6.5
57.5°	8.8	12.1	11.6	13.0	8.4	7.9	7.9	7.4	7.0	6.5	6.0
58°	7.4	9.8	9.8	10.7	7.9	7.9	7.4	7.0	6.5	6.0	6.0
58.5°	7.0	7.4	7.9	7.9	7.4	7.4	7.4	7.0	6.0	6.0	5.6
59°	6.5	7.0	7.4	7.4	7.0	7.0	7.0	6.5	6.0	5.6	5.6
59.5°	6.5	7.0	7.0	7.4	7.0	7.0	6.5	6.0	5.6	5.6	5.1
60°	6.0	6.5	7.0	7.0	6.5	6.5	6.5	6.0	5.6	5.1	5.1
60.5°	5.6	6.0	6.5	6.5	6.0	6.0	6.0	5.6	5.1	5.1	4.6
61°	5.6	6.0	6.0	6.5	6.0	6.0	5.6	5.1	4.6	4.6	4.6
61.5°	5.1	5.6	6.0	6.0	5.6	5.6	5.6	5.1	4.6	4.6	4.2
62°	5.1	5.1	5.6	5.6	5.1	5.1	5.1	4.6	4.2	4.2	4.2
62.5°	4.6	5.1	5.1	5.6	5.1	5.1	5.1	4.6	4.2	4.2	3.7
63°	4.6	4.6	5.1	5.1	4.6	4.6	4.6	4.2	4.2	3.7	3.7
63.5°	4.2	4.6	4.6	5.1	4.6	4.6	4.6	4.2	3.7	3.7	3.7
64°	4.2	4.2	4.6	4.6	4.2	4.2	4.2	3.7	3.7	3.7	3.3
64.5°	3.7	4.2	4.2	4.6	4.2	4.2	4.2	3.7	3.3	3.3	3.3
65°	3.7	3.7	4.2	4.2	3.7	3.7	3.7	3.7	3.3	3.3	3.3
65.5°	3.3	3.7	3.7	4.2	3.7	3.7	3.7	3.3	3.3	3.3	2.8
66°	3.3	3.7	3.7	3.7	3.7	3.7	3.3	3.3	2.8	2.8	2.8





TEST NUMBER: P776686

CATALOG NUMBER: HCDJBL54050CSD-HCD62TRMB-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	2.8	2.8	3.3	3.3	3.3	3.3	2.8	2.8	2.3	2.3	2.3
68°	2.8	2.8	3.3	3.3	2.8	2.8	2.8	2.8	2.3	2.3	2.3
68.5°	2.3	2.8	2.8	2.8	2.8	2.8	2.8	2.3	2.3	2.3	2.3
69°	2.3	2.8	2.8	2.8	2.8	2.8	2.8	2.3	2.3	2.3	1.9
69.5°	2.3	2.3	2.8	2.8	2.3	2.3	2.3	2.3	1.9	1.9	1.9
70°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	1.9	1.9	1.9
70.5°	1.9	2.3	2.3	2.3	2.3	2.3	2.3	1.9	1.9	1.9	1.9
71°	1.9	2.3	2.3	2.3	2.3	2.3	1.9	1.9	1.9	1.9	1.9
71.5°	1.9	1.9	2.3	2.3	1.9	1.9	1.9	1.9	1.4	1.4	1.4
72°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.4	1.4	1.4
72.5°	1.4	1.9	1.9	1.9	1.9	1.9	1.9	1.4	1.4	1.4	1.4
73°	1.4	1.9	1.9	1.9	1.9	1.9	1.9	1.4	1.4	1.4	1.4
73.5°	1.4	1.4	1.9	1.9	1.4	1.4	1.4	1.4	1.4	1.4	1.4
74°	1.4	1.4	1.4	1.9	1.4	1.4	1.4	1.4	1.4	0.9	0.9
74.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.9	0.9	0.9
75°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.9	0.9	0.9
75.5°	0.9	1.4	1.4	1.4	1.4	1.4	1.4	0.9	0.9	0.9	0.9
76°	0.9	1.4	1.4	1.4	1.4	1.4	1.4	0.9	0.9	0.9	0.9
76.5°	0.9	0.9	1.4	1.4	0.9	0.9	0.9	0.9	0.9	0.9	0.9
77°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
77.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.5	0.9
78°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.5	0.5	0.5
78.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.5	0.5	0.5
79°	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.5
79.5°	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.9	0.9	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80.5°	0.5	0.5	0.5	0.9	0.5	0.5	0.5	0.5	0.5	0.5	0.5
81°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
81.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
82°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
82.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0
83°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0
83.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0
84°	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776686  
CATALOG NUMBER: HCDJBL54050CSD-HCD62TRMB-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

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



TEST NUMBER: P776686

CATALOG NUMBER: HCDJBL54050CSD-HCD62TRMB-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2481.8	2481.8	2481.8	2481.8	2481.8	2481.8
0.5°	2475.7	2480.8	2480.4	2480.4	2482.2	2482.2
1°	2472.0	2477.6	2477.6	2478.5	2481.3	2483.1
1.5°	2467.8	2474.3	2474.3	2476.2	2479.9	2483.1
2°	2463.2	2470.6	2471.1	2473.4	2478.5	2483.1
2.5°	2458.0	2465.9	2466.9	2469.7	2476.6	2482.2
3°	2452.9	2461.3	2462.7	2465.9	2473.8	2480.8
3.5°	2446.9	2456.2	2457.6	2461.8	2470.6	2479.4
4°	2440.4	2450.6	2452.5	2457.1	2467.3	2477.6
4.5°	2433.9	2444.6	2446.9	2452.0	2463.6	2475.2
5°	2427.4	2438.0	2440.8	2446.4	2459.4	2472.0
5.5°	2419.5	2431.5	2434.3	2440.8	2454.3	2468.7
6°	2411.5	2424.1	2426.9	2434.3	2449.2	2465.0
6.5°	2403.2	2416.7	2419.9	2427.4	2444.1	2460.4
7°	2394.8	2408.8	2412.5	2420.4	2438.0	2455.7
7.5°	2385.5	2400.4	2404.1	2412.9	2431.5	2450.6
8°	2375.7	2391.6	2395.7	2404.6	2424.6	2445.5
8.5°	2366.0	2381.8	2386.4	2396.7	2417.6	2439.4
9°	2355.3	2372.0	2377.1	2387.8	2410.2	2432.9
9.5°	2344.6	2362.3	2367.4	2378.1	2402.3	2426.4
10°	2334.4	2351.6	2357.2	2368.8	2393.4	2419.0
10.5°	2322.7	2341.3	2346.9	2358.5	2384.6	2411.5
11°	2311.1	2329.7	2335.8	2348.8	2374.8	2403.6
11.5°	2299.0	2318.6	2324.6	2338.1	2366.0	2395.7
12°	2286.5	2306.9	2313.0	2326.9	2356.2	2386.9
12.5°	2273.9	2294.4	2301.4	2315.3	2345.5	2377.1
13°	2260.9	2282.3	2289.3	2303.7	2334.4	2367.8
13.5°	2247.4	2269.3	2276.7	2291.6	2324.1	2358.1
14°	2233.9	2256.3	2264.2	2279.5	2312.5	2347.9
14.5°	2220.5	2242.8	2251.2	2267.0	2301.4	2337.2
15°	2206.1	2228.8	2237.2	2253.9	2288.8	2326.5
15.5°	2191.6	2215.4	2223.7	2240.5	2276.7	2315.3
16°	2177.2	2200.9	2209.3	2227.0	2264.2	2303.2
16.5°	2161.9	2186.1	2194.9	2213.5	2251.2	2291.1
17°	2147.0	2171.6	2180.5	2199.5	2237.7	2279.0
17.5°	2131.2	2156.3	2165.6	2184.7	2224.2	2266.5
18°	2115.4	2141.0	2150.7	2170.3	2210.7	2253.9
18.5°	2100.1	2125.2	2134.9	2154.9	2196.3	2240.9
19°	2083.3	2109.3	2119.1	2139.6	2181.9	2226.5
19.5°	2066.6	2093.1	2103.3	2124.2	2167.5	2213.0
20°	2049.4	2076.8	2086.6	2108.4	2152.1	2199.1
20.5°	2032.6	2059.6	2070.3	2092.6	2137.2	2184.7
21°	2015.4	2042.4	2053.1	2075.9	2121.4	2170.7



TEST NUMBER: P776686

CATALOG NUMBER: HCDJBL54050CSD-HCD62TRMB-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1961.5	1989.9	2001.0	2025.2	2074.0	2124.7
23°	1942.9	1971.7	1983.4	2008.0	2056.8	2108.9
23.5°	1924.8	1953.1	1965.2	1990.3	2040.1	2092.6
24°	1905.7	1934.5	1947.1	1972.7	2022.9	2075.9
24.5°	1887.6	1915.9	1929.0	1954.5	2006.1	2059.6
25°	1868.5	1896.9	1909.9	1935.9	1988.5	2042.9
25.5°	1849.5	1878.3	1891.8	1917.8	1970.8	2025.7
26°	1830.9	1859.2	1872.7	1899.7	1953.1	2008.9
26.5°	1812.3	1840.6	1854.1	1881.1	1935.0	1991.3
27°	1793.7	1821.6	1835.5	1862.5	1917.3	1974.1
27.5°	1776.0	1803.0	1816.9	1844.8	1899.2	1956.4
28°	1758.3	1784.4	1798.3	1826.7	1881.5	1939.2
28.5°	1740.7	1766.7	1780.7	1809.0	1863.4	1921.1
29°	1723.5	1749.5	1763.4	1791.8	1846.2	1903.4
29.5°	1705.8	1731.8	1745.8	1775.1	1829.5	1886.7
30°	1688.1	1714.2	1728.6	1758.3	1812.3	1869.9
30.5°	1669.1	1696.0	1710.9	1740.7	1796.0	1853.2
31°	1649.1	1678.4	1693.2	1723.0	1779.7	1836.9
31.5°	1619.8	1659.3	1674.2	1705.3	1763.0	1820.2
32°	1585.4	1637.0	1652.3	1685.8	1745.3	1803.9
32.5°	1546.8	1604.4	1621.6	1661.6	1727.2	1787.6
33°	1502.2	1564.9	1586.3	1630.9	1707.2	1770.4
33.5°	1455.7	1521.7	1547.3	1591.4	1678.8	1751.8
34°	1407.8	1478.9	1503.6	1544.0	1646.3	1731.8
34.5°	1359.9	1433.8	1456.1	1496.1	1609.1	1704.9
35°	1310.6	1387.3	1404.1	1447.3	1567.7	1673.7
35.5°	1258.5	1340.4	1351.5	1399.4	1525.9	1639.8
36°	1205.5	1288.8	1299.9	1352.5	1481.7	1602.1
36.5°	1151.1	1236.7	1246.9	1305.5	1434.3	1564.5
37°	1097.7	1181.8	1195.3	1258.5	1385.9	1523.1
37.5°	1043.7	1127.9	1144.6	1209.3	1335.7	1479.4
38°	992.1	1071.6	1092.6	1156.3	1286.0	1432.4
38.5°	940.5	1017.7	1041.9	1103.3	1234.8	1383.1
39°	889.4	963.3	990.7	1049.3	1186.5	1331.5
39.5°	838.7	908.5	938.7	995.4	1136.3	1279.0
40°	787.6	852.2	886.6	941.5	1086.1	1224.6
40.5°	736.4	798.7	835.0	891.7	1032.1	1169.3
41°	686.2	747.1	783.9	841.5	979.6	1110.7
41.5°	637.9	696.9	734.1	793.2	923.8	1052.6
42°	588.6	649.0	685.8	745.7	868.5	993.1
42.5°	543.5	600.7	637.9	697.4	813.6	935.9
43°	500.3	556.5	591.4	647.6	759.7	878.7
43.5°	462.1	512.3	545.8	598.8	706.2	824.3



TEST NUMBER: P776686

CATALOG NUMBER: HCDJBL54050CSD-HCD62TRMB-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	348.7	393.3	414.7	459.8	552.3	664.8
45.5°	311.0	357.5	375.2	417.0	503.5	616.0
46°	275.7	323.1	338.0	375.7	456.6	566.3
46.5°	245.5	290.6	301.7	334.3	411.0	517.9
47°	217.1	260.8	268.3	295.2	366.8	471.4
47.5°	191.1	232.0	236.2	257.6	326.4	426.8
48°	166.0	205.0	206.9	220.8	288.3	384.5
48.5°	142.7	179.9	179.5	187.8	253.4	344.0
49°	121.8	158.1	156.7	157.1	220.8	305.9
49.5°	102.7	138.5	136.7	136.2	191.1	270.6
50°	85.5	119.5	116.2	115.8	163.2	238.0
50.5°	70.2	100.0	96.2	94.8	143.2	207.8
51°	59.5	80.9	75.8	74.4	123.2	179.0
51.5°	48.8	66.0	61.4	60.9	103.2	154.4
52°	38.6	53.0	49.3	49.3	82.8	133.4
52.5°	27.9	40.9	38.1	39.5	63.2	112.5
53°	17.2	30.2	28.8	30.7	50.2	91.6
53.5°	11.6	21.4	20.9	22.8	39.1	70.7
54°	8.8	14.4	14.4	16.3	29.3	55.8
54.5°	7.9	12.6	12.6	13.9	21.4	42.3
55°	7.4	10.7	10.7	11.6	14.9	31.1
55.5°	7.0	8.8	8.8	9.3	13.0	21.4
56°	7.0	7.0	7.0	7.4	11.2	14.4
56.5°	6.5	7.0	6.5	7.0	8.8	12.6
57°	6.0	6.5	6.5	6.5	7.0	10.7
57.5°	6.0	6.0	6.0	6.5	7.0	8.8
58°	5.6	6.0	6.0	6.0	6.5	7.4
58.5°	5.6	5.6	5.6	5.6	6.5	7.0
59°	5.1	5.6	5.1	5.6	6.0	6.5
59.5°	5.1	5.1	5.1	5.1	5.6	6.5
60°	4.6	4.6	4.6	4.6	5.6	6.0
60.5°	4.6	4.6	4.6	4.6	5.1	5.6
61°	4.2	4.2	4.2	4.2	4.6	5.6
61.5°	4.2	4.2	4.2	4.2	4.6	5.1
62°	3.7	4.2	3.7	4.2	4.2	5.1
62.5°	3.7	3.7	3.7	3.7	4.2	4.6
63°	3.3	3.7	3.7	3.7	3.7	4.6
63.5°	3.3	3.3	3.3	3.3	3.7	4.2
64°	3.3	3.3	3.3	3.3	3.7	4.2
64.5°	2.8	3.3	2.8	3.3	3.3	3.7
65°	2.8	2.8	2.8	2.8	3.3	3.7
65.5°	2.8	2.8	2.8	2.8	3.3	3.3
66°	2.8	2.8	2.8	2.8	2.8	3.3



TEST NUMBER: P776686

CATALOG NUMBER: HCDJBL54050CSD-HCD62TRMB-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	2.3	2.3	2.3	2.3	2.3	2.8
68°	2.3	2.3	1.9	2.3	2.3	2.8
68.5°	1.9	1.9	1.9	1.9	2.3	2.3
69°	1.9	1.9	1.9	1.9	2.3	2.3
69.5°	1.9	1.9	1.9	1.9	1.9	2.3
70°	1.9	1.9	1.9	1.9	1.9	2.3
70.5°	1.4	1.9	1.4	1.4	1.9	1.9
71°	1.4	1.4	1.4	1.4	1.9	1.9
71.5°	1.4	1.4	1.4	1.4	1.4	1.9
72°	1.4	1.4	1.4	1.4	1.4	1.9
72.5°	1.4	1.4	1.4	1.4	1.4	1.4
73°	1.4	1.4	1.4	1.4	1.4	1.4
73.5°	0.9	0.9	0.9	0.9	1.4	1.4
74°	0.9	0.9	0.9	0.9	1.4	1.4
74.5°	0.9	0.9	0.9	0.9	0.9	1.4
75°	0.9	0.9	0.9	0.9	0.9	1.4
75.5°	0.9	0.9	0.9	0.9	0.9	0.9
76°	0.9	0.9	0.9	0.9	0.9	0.9
76.5°	0.9	0.9	0.9	0.9	0.9	0.9
77°	0.9	0.9	0.5	0.5	0.9	0.9
77.5°	0.5	0.5	0.5	0.5	0.9	0.9
78°	0.5	0.5	0.5	0.5	0.5	0.9
78.5°	0.5	0.5	0.5	0.5	0.5	0.9
79°	0.5	0.5	0.5	0.5	0.5	0.5
79.5°	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.5	0.5	0.5	0.5
80.5°	0.5	0.5	0.5	0.5	0.5	0.5
81°	0.5	0.5	0.5	0.5	0.5	0.5
81.5°	0.5	0.5	0.5	0.5	0.5	0.5
82°	0.5	0.5	0.5	0.5	0.5	0.5
82.5°	0.0	0.5	0.5	0.0	0.5	0.5
83°	0.0	0.0	0.0	0.0	0.0	0.5
83.5°	0.0	0.0	0.0	0.0	0.0	0.5
84°	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776686  
CATALOG NUMBER: HCDJBL54050CSD-HCD62TRMB-5000lm-3000K

**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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21.5°	2155.4	2185.1	2207.9	2219.1	2195.8	2183.7	2159.1	2112.6	2063.3	2034.0	2010.8
22°	2139.6	2170.7	2194.4	2204.7	2180.9	2168.4	2143.8	2096.8	2047.1	2016.8	1993.1



44°	769.9	844.8	914.5	960.1	881.5	847.6	780.1	650.4	538.4	499.3	460.7
44.5°	717.4	790.8	861.5	904.3	823.8	795.0	729.9	603.5	490.5	456.6	418.9



66.5°	3.3	3.3	3.7	3.7	3.3	3.3	3.3	3.3	2.8	2.8	2.8
67°	2.8	3.3	3.3	3.3	3.3	3.3	3.3	2.8	2.8	2.8	2.3



89°	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0



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21.5°	1997.8	2024.7	2036.4	2059.1	2106.1	2155.4
22°	1979.2	2006.6	2018.7	2042.4	2089.8	2139.6



44°	424.5	471.0	500.3	550.9	654.6	769.9
44.5°	386.3	431.0	457.5	505.4	602.5	717.4

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66.5°	2.3	2.3	2.3	2.3	2.8	3.3
67°	2.3	2.3	2.3	2.3	2.8	2.8

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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)