

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: P776408

Luminaire Tested: HCDJBL3040CSD-HCD6TRMW-4000lm-4000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776408
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2310613A001)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD6TRMW-4000lm-4000K
Description: 6 INCH ROUND MEDIUM MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

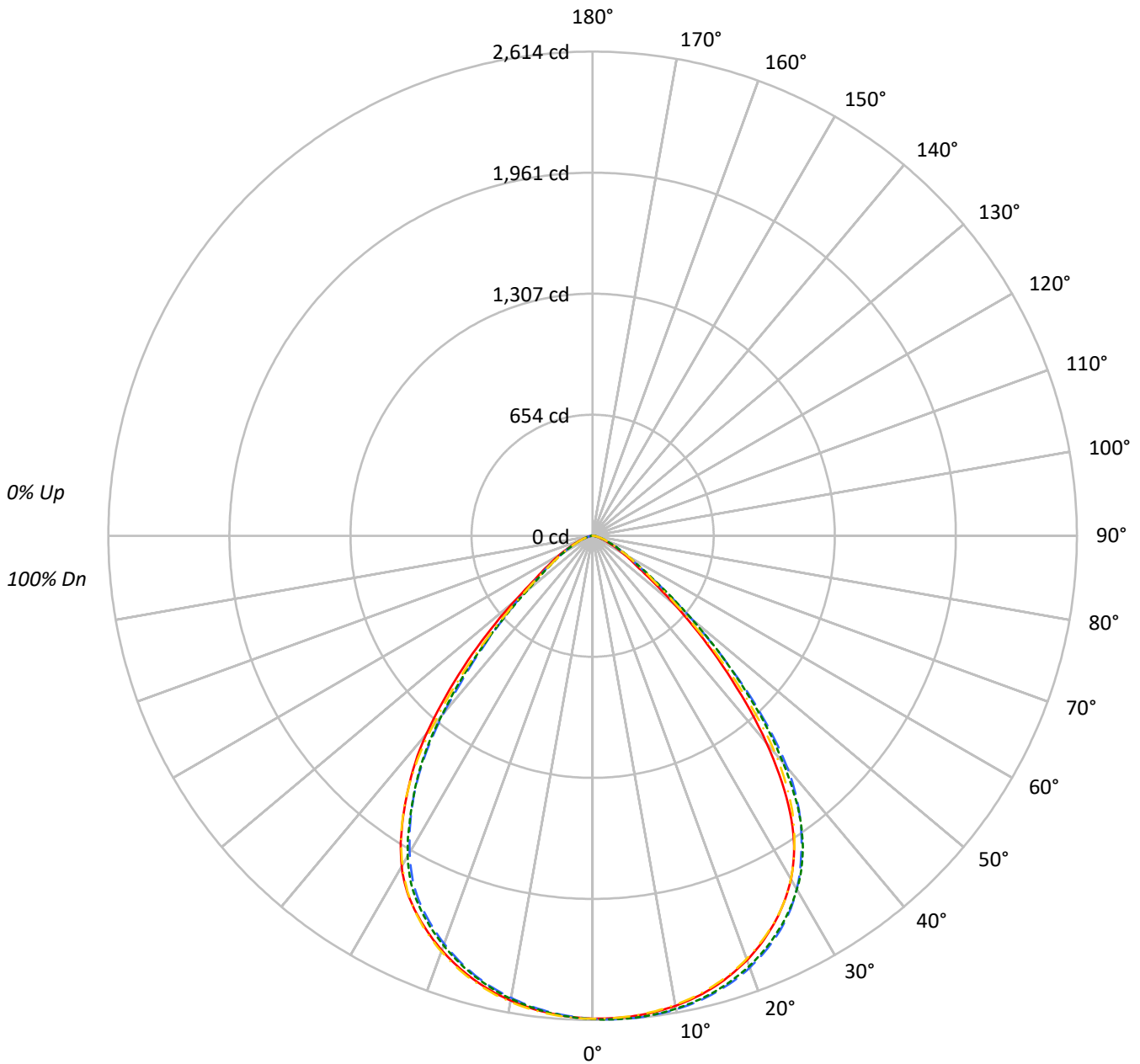
Lumens per Lamp: N/A
Luminaire Lumens: 4357.3 lumens
Efficiency: N/A
Efficacy: 113.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.18
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

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	109	106	103	109	106	104	101	102	100	98	99	97	95	95	94	92	90								
2	105	99	94	89	102	97	92	88	94	90	86	90	87	85	88	85	83	81								
3	98	90	84	79	96	88	83	78	86	81	77	83	79	75	81	77	74	72								
4	91	82	75	70	89	81	74	69	78	73	69	76	72	68	74	70	67	65								
5	85	75	68	62	83	74	67	62	72	66	62	70	65	61	69	64	60	59								
6	80	69	62	56	78	68	61	56	66	60	56	65	59	55	63	59	55	53								
7	75	63	56	51	73	63	56	51	61	55	51	60	54	50	59	54	50	48								
8	70	59	51	46	69	58	51	46	57	51	46	56	50	46	55	49	46	44								
9	66	54	47	43	65	54	47	42	53	47	42	52	46	42	51	46	42	40								
10	62	51	44	39	61	50	44	39	49	43	39	48	43	39	48	42	39	37								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	142966	142966	142966	142966
5°	143220	143732	142444	142356
10°	143440	144319	141848	141313
15°	143202	144598	140756	139706
20°	142194	144195	138904	137305
25°	139925	142750	136072	133780
30°	135540	139572	130463	126406
35°	125173	132019	117945	111982
40°	104603	114407	99959	90877
45°	77016	88203	73829	64394
50°	49423	59461	47504	39734
55°	29543	35860	31043	26924
60°	20810	24395	22487	19571
65°	14217	17304	15838	14009
70°	9761	12534	11044	10146
75°	6736	9298	7858	7350
80°	4578	7135	5588	5209
85°	2013	5598	3271	3019

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 90862 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	246.9	5.7
10°-20°	705.7	16.2
20°-30°	1047.9	24.0
30°-40°	1124.4	25.8
40°-50°	753.6	17.3
50°-60°	306.7	7.0
60°-70°	122.5	2.8
70°-80°	41.9	1.0
80°-90°	7.6	0.2
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°	2000.5	45.9
0°-40°	3125.0	71.7
0°-60°	4185.3	96.1
0°-90°	4357.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4357.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2608	2608	2608	2608	2608	
5°	2603	2612	2588	2587	2603	248
15°	2523	2548	2480	2462	2523	712
25°	2313	2360	2250	2212	2313	1063
35°	1870	1973	1762	1673	1870	1151
45°	993	1138	952	831	993	766
55°	309	375	325	282	309	298
65°	110	133	122	108	110	113
75°	32	44	37	35	32	36
85°	3	9	5	5	3	5
90°	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°	2607.9	2607.9	2607.9	2607.9	2607.9	2607.9	2607.9	2607.9	2607.9	2607.9	2607.9
0.5°	2606.7	2607.9	2609.5	2610.7	2611.1	2610.7	2607.5	2605.1	2605.5	2605.5	2606.7
1°	2607.5	2609.1	2610.7	2611.9	2612.3	2611.5	2607.5	2604.6	2604.2	2603.8	2604.6
1.5°	2607.5	2609.9	2611.9	2613.1	2612.7	2611.5	2607.5	2603.8	2603.4	2601.8	2602.6
2°	2607.1	2610.3	2612.7	2613.9	2613.1	2611.9	2607.1	2603.0	2601.8	2599.8	2600.2
2.5°	2606.7	2610.7	2613.1	2614.3	2613.5	2611.9	2606.7	2601.8	2600.2	2597.8	2597.8
3°	2606.3	2610.7	2613.5	2614.7	2613.5	2611.5	2605.9	2600.6	2598.6	2595.4	2595.4
3.5°	2605.9	2610.7	2613.9	2614.7	2613.5	2611.1	2604.6	2599.0	2596.2	2592.6	2592.2
4°	2605.1	2610.7	2613.5	2614.7	2613.1	2610.3	2603.4	2597.0	2593.8	2589.7	2589.3
4.5°	2603.8	2609.9	2613.5	2614.7	2612.7	2609.5	2602.2	2595.4	2591.4	2586.5	2586.1
5°	2602.6	2609.5	2613.1	2613.9	2611.9	2608.3	2600.2	2593.0	2588.5	2583.3	2582.5
5.5°	2601.4	2608.3	2612.3	2613.5	2611.1	2606.7	2598.6	2590.5	2585.7	2579.7	2578.5
6°	2599.4	2607.5	2611.5	2612.7	2609.9	2605.1	2596.6	2587.7	2582.5	2576.0	2574.8
6.5°	2597.4	2605.9	2610.3	2611.5	2608.3	2603.4	2594.2	2584.9	2579.3	2572.0	2570.4
7°	2595.4	2604.6	2609.1	2610.3	2607.1	2601.4	2591.4	2581.7	2575.6	2567.6	2566.0
7.5°	2593.0	2602.6	2607.5	2608.7	2605.1	2599.0	2588.9	2578.5	2571.6	2563.1	2561.1
8°	2590.1	2600.6	2605.9	2607.1	2603.0	2596.6	2585.7	2574.8	2567.6	2558.3	2556.3
8.5°	2587.3	2598.6	2603.8	2605.1	2601.0	2594.2	2582.5	2570.8	2562.7	2553.5	2551.0
9°	2583.7	2596.2	2601.8	2603.0	2598.2	2590.9	2579.3	2566.8	2558.3	2548.2	2545.0
9.5°	2580.5	2593.4	2599.0	2600.6	2595.4	2588.1	2575.2	2562.3	2553.5	2542.6	2539.4
10°	2576.8	2590.5	2596.6	2597.8	2592.6	2584.9	2571.2	2557.9	2548.2	2536.5	2533.7
10.5°	2572.8	2586.9	2593.4	2595.0	2588.9	2580.9	2567.2	2552.7	2543.0	2530.5	2527.3
11°	2568.4	2583.7	2590.1	2591.8	2585.7	2577.2	2562.7	2547.8	2536.9	2524.5	2520.4
11.5°	2563.9	2579.7	2586.5	2588.5	2581.7	2572.8	2557.9	2542.2	2530.9	2517.6	2513.6
12°	2558.7	2575.6	2582.9	2584.5	2578.1	2568.0	2552.7	2536.5	2524.5	2510.3	2506.3
12.5°	2553.5	2570.8	2578.9	2580.5	2573.6	2563.5	2547.4	2530.5	2518.0	2503.1	2498.7
13°	2548.2	2566.4	2574.8	2576.4	2568.8	2558.3	2541.8	2524.0	2510.7	2495.4	2491.0
13.5°	2542.6	2561.5	2570.0	2571.6	2563.9	2553.1	2535.7	2517.6	2503.5	2487.4	2482.5
14°	2536.5	2556.7	2565.2	2566.8	2559.1	2547.4	2529.7	2510.3	2496.2	2478.9	2473.7
14.5°	2530.1	2550.6	2559.9	2561.9	2553.5	2541.4	2522.8	2503.1	2488.2	2470.4	2464.8
15°	2523.2	2545.0	2554.3	2556.7	2547.8	2535.3	2516.0	2495.4	2480.1	2461.6	2455.5
15.5°	2516.4	2538.6	2548.2	2551.0	2541.4	2528.9	2509.1	2488.2	2471.3	2451.9	2445.9
16°	2508.7	2532.1	2542.2	2544.6	2534.9	2522.0	2501.9	2479.7	2462.8	2442.2	2435.8
16.5°	2501.1	2525.3	2535.7	2538.2	2528.5	2514.8	2494.2	2471.3	2453.5	2432.6	2425.7
17°	2492.6	2518.4	2529.3	2531.7	2521.2	2507.5	2486.2	2462.4	2443.8	2422.1	2415.2
17.5°	2484.6	2510.7	2522.0	2524.5	2514.0	2499.5	2477.7	2453.5	2434.2	2411.2	2404.0
18°	2475.7	2502.7	2514.4	2517.2	2505.9	2491.4	2468.8	2443.8	2424.1	2400.3	2392.7
18.5°	2466.4	2494.6	2506.7	2509.1	2497.9	2482.9	2459.6	2434.2	2414.0	2389.0	2381.0
19°	2457.1	2485.8	2498.3	2501.1	2489.4	2474.1	2450.3	2424.1	2403.1	2377.8	2368.9
19.5°	2447.5	2476.9	2489.8	2492.6	2480.9	2464.8	2440.6	2414.0	2392.3	2365.7	2356.4
20°	2437.4	2467.6	2480.9	2484.2	2471.7	2455.1	2430.5	2403.1	2381.0	2353.6	2343.9
20.5°	2426.9	2458.0	2471.3	2474.9	2462.4	2445.5	2420.1	2392.3	2369.3	2340.3	2331.0
21°	2415.6	2447.9	2462.0	2465.2	2452.3	2435.0	2409.2	2381.0	2357.2	2327.8	2317.3



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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°	2380.6	2415.2	2430.1	2434.6	2420.9	2402.3	2374.9	2344.7	2319.7	2286.3	2275.0
23°	2367.7	2403.5	2419.3	2423.3	2409.2	2390.2	2362.4	2332.2	2306.0	2271.8	2260.1
23.5°	2354.4	2391.5	2407.2	2411.6	2397.5	2377.8	2349.5	2319.3	2292.7	2257.3	2244.8
24°	2341.1	2379.0	2395.5	2399.9	2385.4	2365.3	2336.6	2305.6	2278.6	2242.3	2229.0
24.5°	2327.4	2365.7	2382.2	2387.4	2372.9	2352.8	2323.8	2291.9	2264.1	2227.0	2213.3
25°	2313.3	2352.4	2369.7	2374.9	2360.0	2339.5	2310.0	2277.8	2249.6	2211.3	2197.2
25.5°	2298.4	2339.1	2356.0	2361.2	2346.7	2325.8	2295.9	2263.7	2234.7	2194.8	2180.3
26°	2283.5	2325.0	2342.3	2347.9	2333.0	2312.1	2281.8	2248.8	2219.0	2177.5	2162.1
26.5°	2267.7	2310.0	2327.0	2333.8	2318.9	2297.2	2266.5	2233.5	2202.8	2158.5	2142.8
27°	2252.0	2294.3	2312.5	2318.9	2304.0	2282.2	2250.8	2217.0	2185.9	2138.8	2122.2
27.5°	2234.3	2278.6	2296.3	2303.6	2288.7	2266.9	2234.3	2199.6	2168.2	2118.6	2100.5
28°	2217.8	2261.7	2279.4	2287.5	2273.0	2250.8	2217.0	2181.5	2148.8	2097.3	2077.5
28.5°	2198.8	2244.0	2260.9	2270.6	2257.7	2234.3	2199.2	2163.0	2128.7	2075.1	2053.7
29°	2180.7	2225.4	2243.2	2252.8	2240.3	2217.4	2180.3	2142.8	2107.7	2050.5	2027.9
29.5°	2160.9	2206.5	2223.8	2234.3	2223.0	2199.2	2160.9	2122.2	2085.2	2025.9	2001.7
30°	2141.2	2186.7	2204.1	2215.3	2204.9	2181.1	2140.0	2100.1	2061.0	2000.5	1974.7
30.5°	2119.0	2165.8	2182.7	2195.6	2186.7	2160.9	2118.6	2076.7	2036.4	1973.9	1947.3
31°	2097.7	2144.0	2161.7	2175.0	2167.0	2140.8	2096.9	2052.9	2009.8	1945.7	1918.3
31.5°	2073.9	2121.8	2139.2	2152.9	2146.4	2119.8	2073.5	2027.9	1982.4	1916.7	1890.5
32°	2049.3	2098.1	2115.4	2131.1	2125.5	2097.3	2050.1	2000.9	1953.8	1887.3	1861.1
32.5°	2023.1	2073.5	2091.6	2107.3	2102.9	2074.7	2025.1	1973.5	1923.6	1856.3	1831.7
33°	1996.9	2048.1	2067.0	2083.6	2079.5	2050.9	1999.7	1944.9	1892.9	1824.8	1800.6
33.5°	1967.9	2022.7	2042.0	2058.6	2054.9	2025.5	1973.9	1915.9	1861.1	1792.2	1770.4
34°	1936.9	1995.7	2017.1	2032.8	2029.6	2000.5	1947.3	1885.3	1828.9	1757.9	1737.0
34.5°	1903.8	1969.1	1990.9	2007.0	2001.7	1971.9	1919.9	1853.0	1796.2	1724.1	1705.1
35°	1870.4	1939.7	1963.9	1979.2	1972.7	1944.1	1890.9	1821.2	1762.4	1689.4	1670.5
35.5°	1835.3	1910.7	1936.5	1951.4	1942.9	1914.7	1861.9	1790.2	1729.7	1654.0	1635.0
36°	1797.4	1880.0	1909.1	1922.8	1911.1	1885.3	1831.3	1756.3	1695.9	1617.7	1597.1
36.5°	1758.3	1849.4	1879.2	1893.7	1877.2	1852.6	1799.0	1724.1	1662.0	1580.6	1559.2
37°	1718.8	1816.0	1849.4	1863.1	1841.8	1819.2	1764.8	1689.8	1626.5	1543.1	1518.5
37.5°	1677.7	1781.7	1816.8	1830.5	1804.3	1783.3	1729.7	1657.2	1591.5	1506.0	1477.0
38°	1635.8	1745.0	1784.5	1797.4	1764.8	1747.9	1693.4	1621.3	1555.6	1464.9	1435.1
38.5°	1593.1	1708.0	1749.5	1762.0	1724.9	1708.0	1656.0	1587.1	1518.9	1423.4	1392.0
39°	1550.4	1668.5	1712.8	1725.7	1684.6	1667.7	1616.9	1549.2	1480.7	1380.7	1345.6
39.5°	1506.4	1626.1	1674.1	1687.0	1642.3	1624.9	1576.2	1511.7	1439.5	1338.8	1299.3
40°	1461.7	1581.4	1634.6	1645.9	1598.7	1580.2	1533.9	1469.8	1396.8	1292.0	1251.3
40.5°	1416.6	1535.5	1592.3	1602.4	1556.4	1533.0	1489.5	1427.9	1352.1	1246.5	1202.6
41°	1370.2	1488.3	1547.6	1556.8	1512.5	1485.9	1444.0	1382.7	1306.2	1201.8	1154.6
41.5°	1323.1	1440.8	1503.2	1509.7	1468.6	1438.3	1396.0	1338.0	1260.6	1157.0	1105.9
42°	1274.7	1392.4	1456.1	1460.9	1422.6	1389.6	1346.1	1289.2	1213.9	1110.3	1060.3
42.5°	1226.0	1345.6	1408.5	1412.5	1377.5	1339.6	1297.7	1242.1	1169.9	1066.4	1016.0
43°	1177.6	1298.5	1358.1	1365.0	1331.1	1292.5	1248.9	1193.3	1126.0	1021.2	972.5
43.5°	1130.4	1251.7	1309.4	1316.6	1282.0	1242.5	1200.6	1145.4	1082.5	978.1	929.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	993.4	1109.5	1158.2	1172.0	1137.7	1095.8	1053.1	1006.3	952.3	849.9	808.4
45.5°	949.5	1061.9	1106.7	1124.4	1089.7	1048.2	1005.1	960.8	909.2	810.0	771.0
46°	904.8	1015.2	1055.5	1077.2	1045.0	1001.1	956.3	915.6	866.9	771.0	734.7
46.5°	860.0	968.8	1006.7	1030.5	999.9	955.9	910.0	870.5	824.6	733.9	698.8
47°	815.7	921.3	957.6	982.5	955.1	911.6	863.2	824.6	783.0	696.0	665.4
47.5°	773.8	876.1	910.0	935.4	909.6	868.5	819.3	781.0	743.1	661.7	633.1
48°	732.3	831.0	863.2	889.8	865.3	827.0	776.2	738.7	704.1	627.9	602.5
48.5°	691.6	787.1	819.3	844.7	822.1	787.1	735.9	697.6	666.2	595.6	571.9
49°	652.9	744.0	775.8	800.0	779.8	746.8	696.0	657.7	627.5	564.2	543.7
49.5°	616.2	701.2	733.9	757.7	737.9	707.3	658.5	619.8	591.2	534.4	516.3
50°	579.5	660.1	691.6	714.9	697.2	669.4	621.4	584.4	557.0	506.2	490.1
50.5°	544.9	620.2	652.5	673.4	657.3	632.3	587.6	550.5	523.1	479.6	465.1
51°	511.4	581.5	614.2	632.3	620.2	596.9	554.9	518.7	491.7	454.6	441.3
51.5°	479.6	544.5	577.5	594.8	583.6	563.0	524.7	489.3	462.7	430.4	418.3
52°	449.4	509.8	542.0	558.2	549.3	529.2	495.3	461.0	436.5	407.4	397.0
52.5°	420.7	477.6	508.6	522.7	514.6	497.3	467.9	435.3	411.9	386.1	376.8
53°	393.7	447.3	476.8	488.9	482.4	468.3	441.7	411.9	390.9	366.7	359.5
53.5°	369.6	419.1	446.5	458.2	451.8	440.5	417.5	390.1	371.6	349.8	341.8
54°	347.0	392.5	418.7	429.2	422.8	414.3	395.4	370.4	355.9	332.5	324.4
54.5°	327.2	368.8	391.3	402.2	395.8	390.1	374.4	354.2	340.1	315.6	307.1
55°	309.1	347.0	366.3	377.2	375.2	370.4	356.7	338.5	324.8	298.6	289.4
55.5°	292.2	327.2	343.8	354.6	355.1	351.0	339.3	322.4	309.1	284.1	275.3
56°	277.3	308.3	322.8	333.7	334.5	331.7	321.6	306.3	293.4	270.8	262.4
56.5°	264.0	291.0	304.3	314.3	313.9	312.3	303.9	290.2	280.1	258.3	251.1
57°	252.7	275.7	287.3	296.6	293.8	293.0	286.5	276.9	267.6	248.3	241.0
57.5°	241.8	262.4	272.0	280.5	278.9	278.5	272.4	264.0	255.9	237.8	230.9
58°	231.3	251.1	259.5	266.4	265.2	264.8	259.9	253.1	245.8	227.7	220.8
58.5°	220.8	240.2	248.7	254.7	254.3	253.9	249.5	243.0	235.4	217.6	210.4
59°	210.0	229.7	238.2	244.2	243.4	243.4	239.0	232.5	225.3	207.5	200.7
59.5°	199.9	218.8	227.3	233.7	232.9	232.9	228.9	222.1	214.8	197.9	191.4
60°	189.8	208.4	216.4	222.9	222.5	222.1	218.0	212.4	205.1	188.6	182.6
60.5°	179.7	197.9	205.9	212.4	211.6	211.6	208.0	202.3	195.9	179.7	173.7
61°	170.5	188.2	195.9	201.9	201.5	201.5	198.3	193.0	186.6	171.3	165.2
61.5°	161.6	178.5	186.2	191.8	191.0	191.8	188.6	183.8	177.3	163.2	157.6
62°	153.1	169.7	176.5	182.2	181.8	182.2	179.7	174.9	168.5	155.2	149.9
62.5°	144.7	161.2	167.7	172.9	172.5	173.3	170.9	166.4	160.0	147.5	142.7
63°	137.4	152.7	159.2	164.0	164.0	164.4	162.4	158.4	151.9	139.8	135.4
63.5°	130.6	143.9	151.1	156.0	155.6	156.4	154.4	150.7	143.9	132.6	129.0
64°	123.3	137.0	144.3	147.9	147.9	148.3	146.7	143.5	136.2	125.7	122.5
64.5°	116.5	130.2	137.0	141.1	140.7	141.1	139.4	135.8	129.0	119.3	116.5
65°	109.6	123.3	130.2	134.2	133.4	134.2	132.6	129.0	122.1	113.2	110.4
65.5°	103.2	116.5	123.3	127.4	126.5	127.4	125.7	122.5	115.7	107.2	105.2
66°	97.5	110.0	116.5	120.9	120.1	120.9	119.7	116.1	109.2	101.2	99.5



TEST NUMBER: P776408

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	81.8	93.1	99.1	102.4	102.4	103.2	102.4	98.7	92.3	85.8	85.0
68°	77.4	88.3	93.9	97.1	97.1	97.9	97.1	93.5	87.1	81.0	80.6
68.5°	72.5	83.0	88.7	91.9	91.9	92.7	91.9	88.7	82.2	76.6	76.2
69°	68.5	78.6	84.2	87.1	87.1	87.9	87.5	83.8	77.8	72.1	72.1
69.5°	64.5	74.2	79.4	82.2	82.6	83.0	82.6	79.0	73.3	68.1	68.1
70°	60.9	69.7	75.4	78.2	78.2	79.0	78.2	75.0	68.9	64.5	64.5
70.5°	57.2	66.1	70.9	73.8	73.8	74.6	74.2	70.5	64.9	60.5	60.9
71°	53.6	62.1	67.3	69.7	70.1	70.5	70.1	66.9	61.3	57.2	57.6
71.5°	50.4	58.4	63.7	66.1	66.1	66.9	66.5	62.9	57.6	53.6	54.4
72°	47.2	55.2	60.0	62.5	62.5	63.3	62.9	59.2	54.4	50.4	51.2
72.5°	44.3	52.0	56.4	58.8	58.8	59.6	59.2	56.0	51.2	47.6	48.4
73°	41.5	48.8	53.2	55.6	55.6	56.4	56.0	52.4	48.0	44.7	45.5
73.5°	39.1	45.5	50.4	52.4	52.8	53.2	52.8	49.6	45.1	41.9	42.7
74°	36.7	42.7	47.2	49.6	49.6	50.4	49.6	46.3	42.3	39.1	40.3
74.5°	34.3	40.3	44.3	46.7	46.7	47.2	46.7	43.5	39.5	36.7	37.5
75°	31.8	37.9	41.9	43.9	43.9	44.7	43.9	41.1	37.1	34.7	35.1
75.5°	29.8	35.5	39.1	41.1	41.5	41.9	41.5	38.3	34.7	32.2	33.0
76°	27.8	33.0	36.7	38.7	39.1	39.5	38.7	35.9	32.6	30.2	31.0
76.5°	25.8	30.6	34.7	36.3	36.7	37.1	36.3	33.9	30.6	27.8	29.0
77°	23.8	28.6	32.2	34.3	34.3	34.7	34.3	31.8	28.2	25.8	27.0
77.5°	22.2	26.6	30.2	31.8	32.2	32.6	32.2	29.4	26.2	23.8	25.0
78°	20.6	24.6	28.2	29.8	30.2	30.6	30.2	27.4	24.2	22.2	23.0
78.5°	18.9	23.0	26.2	27.8	28.2	28.6	27.8	25.4	22.6	20.6	21.4
79°	17.3	21.4	24.2	26.2	26.2	26.6	25.8	23.4	21.0	18.9	19.7
79.5°	15.7	19.7	22.6	24.2	24.2	24.6	24.2	21.8	19.3	17.3	18.1
80°	14.5	18.1	21.0	22.6	22.6	23.0	22.2	19.7	17.7	15.7	16.5
80.5°	13.3	16.5	19.3	21.0	21.0	21.4	20.6	18.1	16.1	14.5	15.3
81°	12.1	14.9	17.7	19.3	19.3	19.7	18.9	16.9	14.9	12.9	13.7
81.5°	10.5	13.7	16.1	17.7	17.7	18.1	17.7	15.3	13.3	11.7	12.5
82°	9.7	12.5	14.9	16.5	16.5	16.5	16.1	13.7	12.1	10.5	11.3
82.5°	8.5	10.9	13.7	14.9	14.9	15.3	14.9	12.5	10.9	9.3	10.1
83°	7.3	9.7	12.5	13.7	13.7	14.1	13.3	11.3	9.7	8.1	8.9
83.5°	6.4	8.5	11.3	12.5	12.5	12.9	12.1	10.1	8.5	6.9	7.7
84°	5.2	7.7	9.7	11.3	11.3	11.7	10.9	8.9	7.3	5.6	6.9
84.5°	4.4	6.4	8.9	10.1	10.1	10.5	9.7	7.7	6.4	4.8	6.0
85°	3.2	5.2	7.7	8.9	8.9	9.3	8.5	6.4	5.2	3.6	4.8
85.5°	2.4	4.4	6.9	8.1	8.1	8.1	7.7	5.6	4.4	3.2	4.0
86°	2.0	3.6	5.6	6.9	6.9	7.3	6.4	4.8	3.2	2.4	3.2
86.5°	1.6	2.8	4.8	6.0	6.0	6.0	5.6	4.0	2.8	2.0	2.4
87°	1.2	2.4	4.0	4.8	4.8	5.2	4.8	3.2	2.0	1.6	1.6
87.5°	0.8	2.0	3.2	4.0	4.0	4.0	4.0	2.8	1.6	1.2	1.2
88°	0.4	1.2	2.4	3.2	3.2	3.2	2.8	2.0	1.2	0.4	0.4
88.5°	0.0	0.8	1.6	2.4	2.4	2.4	2.0	1.6	0.8	0.0	0.0



TEST NUMBER: P776408
CATALOG NUMBER: HCDJBL3040CSD-HCD6TRMW-4000lm-4000K

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: P776408

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2607.9	2607.9	2607.9	2607.9	2607.9	2607.9
0.5°	2607.5	2608.7	2609.1	2606.7	2605.5	2606.7
1°	2605.9	2607.1	2607.9	2606.3	2605.5	2607.5
1.5°	2603.8	2605.1	2606.7	2605.5	2605.1	2607.5
2°	2601.4	2603.4	2604.6	2604.2	2604.2	2607.1
2.5°	2599.0	2601.0	2603.0	2603.0	2603.4	2606.7
3°	2596.2	2598.6	2601.0	2601.4	2602.6	2606.3
3.5°	2593.4	2596.2	2598.6	2599.8	2601.4	2605.9
4°	2590.5	2593.0	2596.2	2597.8	2600.2	2605.1
4.5°	2586.9	2590.1	2593.4	2595.4	2598.6	2603.8
5°	2583.3	2586.9	2590.1	2593.0	2596.6	2602.6
5.5°	2579.3	2582.9	2586.9	2590.5	2594.6	2601.4
6°	2575.2	2579.3	2583.3	2587.3	2592.2	2599.4
6.5°	2571.2	2575.2	2579.7	2584.5	2589.7	2597.4
7°	2566.0	2570.4	2575.6	2580.9	2586.5	2595.4
7.5°	2561.5	2566.0	2571.6	2577.2	2583.7	2593.0
8°	2556.3	2560.7	2567.2	2573.2	2580.5	2590.1
8.5°	2551.0	2555.9	2562.3	2569.2	2577.2	2587.3
9°	2545.4	2550.2	2557.1	2564.8	2573.2	2583.7
9.5°	2539.4	2544.6	2551.9	2559.9	2569.2	2580.5
10°	2533.3	2538.6	2546.2	2555.1	2564.8	2576.8
10.5°	2526.9	2532.5	2540.6	2549.4	2560.3	2572.8
11°	2519.6	2525.7	2534.1	2543.8	2555.5	2568.4
11.5°	2512.8	2518.8	2527.7	2537.8	2550.2	2563.9
12°	2505.1	2511.6	2520.4	2531.7	2544.6	2558.7
12.5°	2497.9	2503.9	2513.6	2525.3	2539.0	2553.5
13°	2489.4	2496.2	2505.9	2518.4	2532.9	2548.2
13.5°	2480.9	2488.2	2498.3	2511.2	2526.5	2542.6
14°	2472.1	2479.7	2490.2	2503.5	2519.6	2536.5
14.5°	2463.2	2470.4	2481.7	2495.8	2512.8	2530.1
15°	2453.9	2461.6	2473.3	2487.8	2505.5	2523.2
15.5°	2444.3	2452.3	2464.0	2479.3	2497.4	2516.4
16°	2434.2	2442.2	2454.3	2470.4	2489.8	2508.7
16.5°	2424.1	2432.6	2444.7	2461.6	2481.3	2501.1
17°	2413.2	2422.1	2435.0	2451.9	2472.5	2492.6
17.5°	2402.7	2411.2	2424.5	2442.2	2463.2	2484.6
18°	2390.7	2400.3	2414.0	2432.6	2453.9	2475.7
18.5°	2379.4	2389.0	2403.1	2421.7	2443.8	2466.4
19°	2367.3	2377.4	2391.9	2410.8	2433.8	2457.1
19.5°	2354.8	2365.7	2380.2	2399.9	2423.7	2447.5
20°	2341.9	2353.6	2368.5	2388.6	2412.8	2437.4
20.5°	2329.0	2341.1	2356.4	2376.9	2401.5	2426.9
21°	2315.7	2328.2	2343.5	2364.5	2389.8	2415.6

TEST NUMBER: P776408

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2273.4	2287.5	2303.6	2325.8	2352.8	2380.6
23°	2258.5	2273.0	2289.5	2312.1	2339.1	2367.7
23.5°	2243.2	2257.7	2275.4	2298.0	2325.4	2354.4
24°	2227.8	2242.7	2260.1	2283.0	2311.3	2341.1
24.5°	2212.1	2227.4	2245.2	2268.1	2296.8	2327.4
25°	2196.0	2211.7	2229.4	2252.8	2281.8	2313.3
25.5°	2179.1	2195.2	2213.7	2237.1	2266.5	2298.4
26°	2160.5	2178.3	2196.0	2220.2	2250.8	2283.5
26.5°	2141.6	2159.7	2177.9	2202.0	2234.7	2267.7
27°	2121.0	2140.8	2158.1	2183.5	2217.8	2252.0
27.5°	2099.3	2119.4	2138.0	2164.2	2199.6	2234.3
28°	2076.7	2098.1	2116.6	2142.8	2181.5	2217.8
28.5°	2053.3	2073.9	2094.0	2121.8	2161.7	2198.8
29°	2028.3	2049.7	2070.7	2100.1	2141.6	2180.7
29.5°	2003.0	2023.5	2046.1	2077.1	2120.6	2160.9
30°	1975.6	1996.9	2020.3	2052.5	2098.5	2141.2
30.5°	1947.3	1966.7	1993.3	2028.7	2075.9	2119.0
31°	1917.9	1938.1	1964.3	2003.0	2051.3	2097.7
31.5°	1888.5	1906.6	1935.3	1977.2	2026.3	2073.9
32°	1856.7	1874.0	1905.0	1949.4	2000.5	2049.3
32.5°	1824.4	1839.7	1874.0	1922.8	1973.5	2023.1
33°	1791.0	1808.7	1842.2	1894.5	1944.9	1996.9
33.5°	1756.3	1775.3	1809.1	1864.7	1916.3	1967.9
34°	1722.1	1741.4	1776.5	1832.5	1886.5	1936.9
34.5°	1687.0	1706.3	1742.6	1801.0	1854.6	1903.8
35°	1650.7	1673.3	1709.2	1767.6	1821.6	1870.4
35.5°	1614.5	1639.4	1675.7	1732.9	1787.7	1835.3
36°	1577.0	1604.8	1640.2	1694.3	1751.5	1797.4
36.5°	1539.5	1568.1	1605.2	1658.0	1713.6	1758.3
37°	1500.4	1530.6	1568.1	1618.5	1672.5	1718.8
37.5°	1460.5	1492.3	1529.0	1578.2	1631.4	1677.7
38°	1419.4	1451.6	1488.7	1535.5	1585.8	1635.8
38.5°	1375.9	1408.5	1446.8	1491.1	1541.5	1593.1
39°	1331.5	1363.4	1403.7	1444.4	1491.9	1550.4
39.5°	1286.4	1316.6	1356.9	1396.8	1444.0	1506.4
40°	1240.5	1269.9	1310.6	1347.7	1393.6	1461.7
40.5°	1195.3	1223.9	1261.8	1298.5	1344.8	1416.6
41°	1149.4	1178.8	1213.9	1248.5	1295.7	1370.2
41.5°	1103.4	1134.9	1165.9	1199.4	1246.1	1323.1
42°	1058.7	1091.3	1118.4	1150.2	1196.1	1274.7
42.5°	1014.0	1047.8	1070.8	1101.0	1148.6	1226.0
43°	969.6	1005.1	1024.9	1051.0	1100.2	1177.6
43.5°	925.3	960.0	978.9	1003.5	1052.7	1130.4

TEST NUMBER: P776408

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	801.6	830.6	843.1	864.1	916.4	993.4
45.5°	762.9	788.3	799.6	820.5	874.5	949.5
46°	725.4	748.0	756.4	778.6	833.4	904.8
46.5°	687.1	708.5	714.5	738.7	792.7	860.0
47°	652.1	669.8	674.6	698.4	752.8	815.7
47.5°	618.6	631.1	636.8	661.7	713.7	773.8
48°	587.2	594.4	600.1	625.9	675.4	732.3
48.5°	554.9	559.4	565.8	591.6	639.6	691.6
49°	525.9	526.3	533.2	559.4	603.3	652.9
49.5°	498.1	494.9	502.6	528.7	569.0	616.2
50°	471.9	465.9	473.9	498.9	535.2	579.5
50.5°	446.1	438.5	446.9	470.7	504.2	544.9
51°	423.6	414.7	422.0	444.9	473.9	511.4
51.5°	401.4	393.3	399.8	420.7	446.1	479.6
52°	380.4	374.0	379.2	397.8	420.3	449.4
52.5°	363.1	356.3	359.9	376.0	395.8	420.7
53°	346.2	339.7	342.6	355.9	372.8	393.7
53.5°	329.3	324.0	325.6	336.9	351.0	369.6
54°	311.9	309.5	310.3	319.2	331.3	347.0
54.5°	295.0	295.4	295.8	302.7	313.1	327.2
55°	280.5	281.7	281.7	287.3	296.6	309.1
55.5°	267.6	268.8	268.8	272.8	280.9	292.2
56°	255.9	257.1	257.1	260.3	266.8	277.3
56.5°	245.4	247.0	246.6	249.5	255.1	264.0
57°	235.4	236.6	236.6	239.0	244.6	252.7
57.5°	225.3	226.5	226.1	228.5	234.1	241.8
58°	215.2	216.4	216.0	218.0	223.7	231.3
58.5°	205.1	206.3	205.5	208.0	212.8	220.8
59°	195.9	196.7	196.3	197.9	202.3	210.0
59.5°	186.6	187.8	187.0	188.2	192.6	199.9
60°	177.3	178.5	177.7	179.3	183.4	189.8
60.5°	169.3	170.1	169.3	170.5	174.1	179.7
61°	161.2	162.0	160.8	162.0	165.2	170.5
61.5°	153.1	153.9	153.1	154.4	157.2	161.6
62°	145.9	146.7	145.5	146.7	149.5	153.1
62.5°	138.6	140.2	138.6	139.8	142.3	144.7
63°	131.8	133.8	132.2	133.4	135.4	137.4
63.5°	125.3	126.9	125.7	126.5	128.6	130.6
64°	119.3	120.5	119.3	120.1	121.7	123.3
64.5°	113.2	113.6	112.8	113.2	114.9	116.5
65°	107.6	108.0	107.2	107.6	108.8	109.6
65.5°	102.0	102.4	101.6	102.0	102.8	103.2
66°	96.7	97.1	96.3	96.7	97.1	97.5



TEST NUMBER: P776408

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	82.6	83.0	82.2	82.2	82.2	81.8
68°	78.2	78.6	77.8	78.2	77.4	77.4
68.5°	74.2	74.6	73.8	73.8	73.3	72.5
69°	70.1	70.5	69.7	70.1	68.9	68.5
69.5°	66.5	66.9	66.1	66.1	65.3	64.5
70°	62.9	63.3	62.5	62.5	61.3	60.9
70.5°	59.2	59.6	58.8	58.8	57.6	57.2
71°	56.0	56.4	55.6	55.6	54.4	53.6
71.5°	52.8	53.2	52.4	52.4	51.2	50.4
72°	50.0	50.0	49.6	49.6	48.0	47.2
72.5°	47.2	47.2	46.7	46.7	45.1	44.3
73°	44.3	44.3	43.9	43.9	42.3	41.5
73.5°	41.5	41.9	41.1	41.1	39.5	39.1
74°	39.1	39.1	38.7	38.7	37.1	36.7
74.5°	36.7	36.7	36.3	36.3	34.7	34.3
75°	34.7	34.7	34.3	33.9	32.6	31.8
75.5°	32.6	32.2	31.8	31.8	30.2	29.8
76°	30.6	30.2	29.8	29.4	28.2	27.8
76.5°	28.6	28.2	27.8	27.8	26.2	25.8
77°	26.6	26.6	26.2	25.8	24.2	23.8
77.5°	24.6	24.6	24.2	23.8	22.6	22.2
78°	22.6	23.0	22.6	22.2	20.6	20.6
78.5°	21.0	21.4	21.0	20.6	18.9	18.9
79°	19.3	19.7	19.3	18.9	17.7	17.3
79.5°	18.1	18.1	17.7	17.3	16.1	15.7
80°	16.5	16.5	16.5	15.7	14.5	14.5
80.5°	14.9	15.3	14.9	14.5	13.3	13.3
81°	13.7	14.1	13.7	13.3	12.1	12.1
81.5°	12.5	12.9	12.5	12.1	10.5	10.5
82°	11.3	11.7	11.3	10.9	9.3	9.7
82.5°	10.1	10.1	10.1	9.7	8.1	8.5
83°	8.9	9.3	8.9	8.5	6.9	7.3
83.5°	8.1	8.1	7.7	7.3	6.0	6.4
84°	6.9	6.9	6.9	6.4	5.2	5.2
84.5°	6.0	6.0	5.6	5.6	4.0	4.4
85°	4.8	4.8	4.8	4.8	3.6	3.2
85.5°	4.0	4.0	4.0	3.6	2.8	2.4
86°	3.2	3.2	3.2	2.8	2.4	2.0
86.5°	2.4	2.4	2.0	2.0	1.6	1.6
87°	1.2	1.6	1.2	1.2	1.2	1.2
87.5°	0.4	0.8	0.4	0.8	0.8	0.8
88°	0.0	0.0	0.0	0.0	0.4	0.4
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776408
CATALOG NUMBER: HCDJBL3040CSD-HCD6TRMW-4000lm-4000K

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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Cooper Lighting Solutions Photometric Lab
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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°	2404.4	2437.4	2451.5	2455.5	2442.2	2424.5	2398.3	2369.3	2345.1	2314.1	2303.6
22°	2392.7	2426.5	2441.4	2445.1	2431.8	2413.6	2386.6	2357.2	2332.6	2300.4	2289.5



44°	1084.1	1204.6	1258.6	1268.7	1233.2	1193.7	1150.6	1097.8	1039.4	933.4	888.2
44.5°	1038.6	1156.2	1208.6	1220.3	1184.4	1144.9	1100.2	1052.3	995.4	891.9	848.3



66.5°	91.9	104.4	110.0	114.1	113.6	114.5	113.6	110.0	103.2	95.9	94.7
67°	86.6	98.3	104.4	108.0	108.0	108.8	107.6	104.4	97.5	90.7	89.9



89°	0.0	0.4	0.8	1.6	1.6	1.2	0.8	0.4	0.0	0.0
89.5°	0.0	0.0	0.4	0.8	0.8	0.8	0.4	0.0	0.0	0.0

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21.5°	2302.0	2314.9	2330.6	2352.0	2377.8	2404.4
22°	2287.9	2301.2	2316.9	2339.1	2365.7	2392.7



44°	883.4	916.0	933.4	956.7	1005.9	1084.1
44.5°	842.3	873.3	887.4	910.4	960.8	1038.6

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66.5°	91.9	92.3	91.5	91.9	91.9	91.9
67°	87.1	87.5	86.6	87.1	87.1	86.6

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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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Scaled Data Report



(END OF REPORT)