

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: P776491

Luminaire Tested: HCDJBL3040CSD-HCD8TRH-4000lm-3000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776491
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-HCD8TRH-4000lm-3000K
Description: 8 INCH ROUND MEDIUM HAZE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

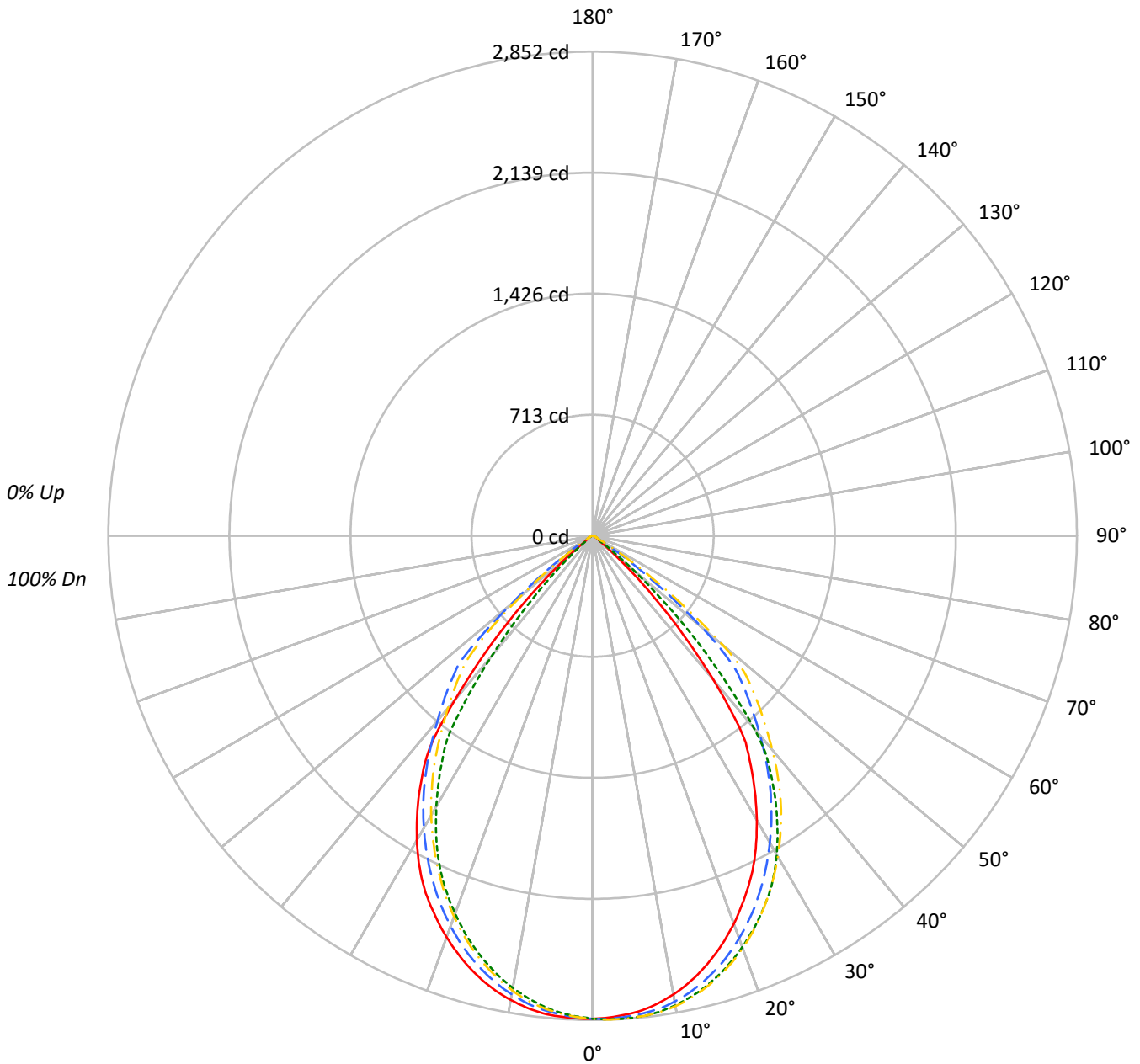
Lumens per Lamp: N/A
Luminaire Lumens: 3943.1 lumens
Efficiency: N/A
Efficacy: 102.4 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.15
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

Input Watts (W): 38.5
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	104	110	107	105	103	103	101	99	100	98	97	96	95	94	92					92			
2	106	101	96	92	104	99	95	91	96	92	89	92	90	87	90	87	85	84					84			
3	100	92	87	82	98	91	86	81	88	84	80	86	82	79	83	80	78	76					76			
4	94	85	79	74	92	84	78	73	82	76	72	79	75	72	78	74	71	69					69			
5	88	78	72	67	86	77	71	66	75	70	66	74	69	65	72	68	65	63					63			
6	83	72	66	61	81	72	65	60	70	64	60	68	63	60	67	63	59	57					57			
7	78	67	60	55	76	66	60	55	65	59	55	64	58	55	62	58	54	53					53			
8	73	62	55	51	72	62	55	51	60	55	50	59	54	50	58	54	50	48					48			
9	69	58	51	47	68	57	51	47	56	51	46	56	50	46	55	50	46	45					45			
10	65	54	48	43	64	54	47	43	53	47	43	52	47	43	51	46	43	41					41			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	86856	86856	86856	86856
5°	86421	87282	86850	85857
10°	85018	87055	86072	83840
15°	82549	85861	84379	80877
20°	79018	83758	81711	76919
25°	74491	80834	78277	71947
30°	68148	76454	72936	64880
35°	60088	69759	65544	56443
40°	44011	58937	50221	36774
45°	22167	35888	27728	16221
50°	6764	14885	9105	4645
55°	2502	2810	2502	2166
60°	1911	2100	1911	1649
65°	1495	1611	1466	1271
70°	1187	1294	1152	1009
75°	967	1062	920	790
80°	756	897	756	615
85°	560	806	560	420

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 135°

Vertical Angle: 45°

Luminance: 58983 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	267.8	6.8
10°-20°	743.3	18.9
20°-30°	1043.1	26.5
30°-40°	1071.1	27.2
40°-50°	654.9	16.6
50°-60°	127.2	3.2
60°-70°	23.2	0.6
70°-80°	10.3	0.3
80°-90°	2.2	0.1
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°	2054.1	52.1
0°-40°	3125.3	79.3
0°-60°	3907.4	99.1
0°-90°	3943.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3943.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2845	2845	2845	2845	2845	
5°	2820	2848	2834	2802	2820	267
15°	2612	2716	2670	2559	2612	733
25°	2211	2400	2324	2136	2211	1011
35°	1612	1872	1759	1514	1612	985
45°	513	831	642	376	513	414
55°	47	53	47	41	47	51
65°	21	22	20	18	21	21
75°	8	9	8	7	8	9
85°	2	2	2	1	2	2
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°	2844.9	2844.9	2844.9	2844.9	2844.9	2844.9	2844.9	2844.9	2844.9	2844.9	2844.9
0.5°	2844.1	2843.7	2845.7	2847.2	2846.1	2847.2	2848.0	2848.0	2845.3	2843.3	2843.3
1°	2842.5	2843.3	2845.7	2848.4	2847.6	2848.8	2849.6	2848.8	2845.3	2842.2	2841.8
1.5°	2841.0	2842.5	2845.7	2849.2	2848.8	2850.4	2850.8	2849.2	2844.9	2841.0	2839.8
2°	2839.0	2841.4	2845.7	2849.6	2850.0	2851.2	2851.5	2849.2	2844.1	2839.4	2837.5
2.5°	2836.7	2839.8	2844.9	2849.6	2850.4	2851.9	2851.5	2849.2	2843.3	2837.5	2835.1
3°	2833.9	2837.9	2843.7	2848.8	2850.4	2851.9	2851.5	2848.8	2841.8	2835.5	2832.0
3.5°	2830.8	2835.5	2842.2	2847.6	2850.4	2851.9	2851.2	2847.6	2840.2	2832.8	2828.9
4°	2827.7	2833.2	2840.2	2846.5	2849.6	2851.2	2850.4	2846.9	2838.6	2830.4	2825.3
4.5°	2824.2	2830.4	2837.9	2844.9	2848.8	2850.4	2849.2	2845.7	2836.7	2827.7	2821.0
5°	2819.9	2827.3	2835.5	2843.3	2848.0	2849.2	2848.0	2843.7	2833.9	2824.2	2817.1
5.5°	2815.2	2823.4	2832.4	2841.4	2846.5	2848.0	2846.5	2841.4	2831.2	2820.6	2812.4
6°	2809.7	2819.1	2829.6	2839.0	2844.9	2846.5	2844.5	2839.0	2827.3	2816.3	2806.9
6.5°	2803.4	2813.6	2826.1	2836.3	2842.5	2844.5	2842.5	2835.5	2822.6	2811.2	2801.1
7°	2796.4	2808.1	2822.2	2832.8	2839.4	2841.8	2840.2	2831.6	2817.5	2805.8	2794.8
7.5°	2788.9	2801.5	2817.9	2828.5	2835.5	2838.6	2837.1	2826.5	2812.0	2799.1	2787.8
8°	2780.3	2794.4	2813.2	2823.8	2831.2	2834.7	2833.5	2821.8	2806.2	2792.9	2779.9
8.5°	2771.3	2786.2	2807.3	2818.7	2826.1	2830.0	2829.2	2816.3	2799.1	2785.4	2771.7
9°	2762.3	2778.4	2801.1	2812.8	2820.6	2825.3	2824.5	2810.1	2792.1	2777.2	2762.7
9.5°	2752.2	2769.4	2794.0	2806.5	2814.8	2819.5	2819.1	2803.4	2784.2	2769.0	2753.3
10°	2742.4	2760.8	2786.2	2799.9	2808.1	2813.6	2812.8	2796.4	2776.4	2760.4	2743.2
10.5°	2731.8	2751.0	2778.0	2792.5	2800.7	2807.3	2806.5	2789.3	2768.2	2751.0	2732.6
11°	2720.5	2741.2	2769.0	2784.6	2793.2	2799.9	2799.5	2781.5	2759.2	2741.6	2722.0
11.5°	2708.7	2730.6	2759.6	2776.0	2785.4	2792.1	2791.7	2773.3	2749.8	2731.0	2710.3
12°	2696.2	2720.1	2749.4	2767.4	2777.2	2784.2	2783.1	2764.7	2740.0	2720.5	2698.5
12.5°	2683.7	2708.7	2739.2	2758.0	2768.2	2776.0	2774.1	2755.7	2729.5	2709.1	2686.0
13°	2670.4	2697.0	2728.3	2748.6	2759.2	2767.4	2765.1	2745.9	2718.9	2697.4	2673.5
13.5°	2656.3	2684.8	2716.5	2738.5	2749.0	2758.0	2755.3	2736.1	2707.2	2685.2	2660.6
14°	2641.8	2671.9	2704.8	2727.9	2738.8	2748.2	2744.7	2725.5	2695.4	2672.7	2646.5
14.5°	2626.5	2657.8	2692.3	2716.5	2727.9	2737.7	2734.2	2714.2	2682.5	2659.0	2632.8
15°	2611.7	2644.1	2679.4	2704.4	2716.5	2726.7	2722.8	2702.8	2669.6	2645.3	2618.3
15.5°	2595.2	2629.7	2666.1	2691.9	2704.8	2715.0	2711.1	2690.7	2656.3	2631.2	2603.5
16°	2578.8	2614.4	2652.4	2679.4	2692.7	2703.2	2698.9	2677.8	2642.2	2616.4	2587.8
16.5°	2562.4	2599.1	2637.9	2666.5	2679.8	2691.1	2686.8	2664.1	2627.7	2601.1	2571.8
17°	2545.1	2583.5	2623.0	2652.8	2666.5	2678.2	2673.5	2651.2	2613.2	2585.1	2554.9
17.5°	2527.1	2567.1	2607.4	2637.9	2652.8	2664.5	2659.8	2636.7	2597.6	2569.0	2538.1
18°	2509.1	2549.8	2591.7	2623.0	2638.7	2650.8	2646.1	2621.8	2581.9	2552.6	2520.9
18.5°	2490.4	2532.2	2575.3	2607.8	2623.8	2636.3	2631.2	2607.0	2565.5	2535.4	2502.5
19°	2471.2	2514.6	2558.4	2592.1	2608.9	2621.1	2616.0	2591.3	2549.1	2518.1	2484.5
19.5°	2452.0	2496.2	2541.2	2575.7	2593.7	2605.8	2600.7	2575.3	2532.2	2500.1	2465.7
20°	2432.1	2477.4	2523.6	2559.6	2578.0	2589.8	2584.7	2558.8	2515.0	2482.1	2446.5
20.5°	2411.3	2457.5	2505.6	2542.4	2562.0	2574.1	2568.2	2541.6	2497.0	2463.0	2427.0
21°	2390.2	2437.5	2487.2	2525.2	2545.1	2557.3	2551.4	2524.4	2479.4	2444.2	2407.0



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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°	2325.2	2375.3	2428.9	2470.8	2493.9	2505.6	2498.2	2470.8	2422.3	2385.1	2344.4
23°	2302.9	2353.0	2409.0	2452.0	2475.5	2487.2	2479.8	2452.0	2403.1	2364.7	2322.9
23.5°	2280.6	2331.5	2388.6	2432.8	2456.7	2469.2	2460.6	2432.4	2383.9	2343.6	2301.0
24°	2257.9	2308.8	2367.1	2413.3	2438.3	2450.1	2441.1	2412.9	2364.4	2322.5	2279.0
24.5°	2234.8	2286.5	2345.6	2393.3	2419.1	2430.5	2421.1	2393.3	2344.4	2301.0	2256.4
25°	2211.3	2263.4	2323.7	2372.6	2399.6	2410.5	2401.5	2373.0	2323.7	2279.0	2232.9
25.5°	2186.3	2240.3	2301.7	2352.2	2380.4	2391.0	2380.8	2352.6	2302.1	2257.1	2209.8
26°	2160.5	2217.2	2279.4	2331.1	2360.8	2370.6	2360.1	2332.3	2279.4	2235.2	2186.3
26.5°	2134.3	2193.7	2256.4	2310.4	2340.1	2349.5	2338.5	2311.5	2255.6	2212.1	2162.4
27°	2107.3	2169.1	2233.3	2288.8	2318.2	2328.4	2317.4	2290.0	2230.9	2188.7	2138.2
27.5°	2079.5	2143.3	2209.4	2266.5	2295.5	2307.6	2295.5	2267.7	2205.5	2164.4	2113.1
28°	2051.3	2116.6	2185.5	2243.8	2271.6	2286.1	2273.2	2243.8	2179.7	2138.2	2088.5
28.5°	2022.7	2090.0	2161.7	2221.1	2247.0	2263.4	2250.5	2219.6	2153.0	2112.3	2063.8
29°	1992.6	2062.3	2136.6	2197.3	2221.9	2239.9	2228.2	2194.9	2126.0	2086.1	2038.8
29.5°	1963.3	2035.3	2112.3	2172.6	2195.7	2215.7	2204.7	2169.5	2097.5	2059.1	2013.3
30°	1933.1	2006.7	2087.3	2146.4	2168.7	2191.0	2181.2	2142.5	2068.9	2031.3	1987.1
30.5°	1902.2	1978.1	2062.6	2120.2	2140.9	2164.8	2157.3	2115.5	2040.0	2003.2	1961.7
31°	1871.3	1948.4	2036.8	2093.2	2112.7	2139.3	2133.9	2088.1	2010.6	1974.6	1935.9
31.5°	1840.0	1919.8	2011.8	2065.8	2083.8	2112.0	2109.2	2060.3	1980.9	1945.6	1909.6
32°	1809.1	1889.3	1985.6	2037.6	2054.8	2084.6	2085.0	2032.1	1950.3	1916.7	1883.0
32.5°	1777.4	1860.3	1959.7	2008.3	2025.5	2056.4	2060.3	2003.2	1920.2	1888.1	1856.4
33°	1744.9	1830.2	1933.5	1979.7	1995.3	2028.6	2035.6	1973.4	1888.9	1858.0	1829.0
33.5°	1712.4	1799.7	1907.3	1949.2	1964.4	1999.3	2010.6	1943.7	1857.2	1828.6	1800.9
34°	1679.9	1768.8	1878.7	1920.6	1934.3	1970.3	1985.2	1913.9	1825.1	1799.3	1772.7
34.5°	1646.3	1738.6	1852.1	1890.1	1903.0	1941.3	1959.3	1883.8	1791.5	1769.2	1742.9
35°	1612.2	1706.9	1823.9	1859.9	1871.7	1912.0	1933.1	1853.3	1758.6	1738.2	1714.0
35.5°	1580.1	1675.6	1796.5	1829.0	1838.8	1881.9	1906.1	1822.4	1725.7	1707.7	1684.2
36°	1545.7	1644.3	1767.6	1800.1	1806.3	1852.5	1878.3	1791.1	1693.2	1676.8	1654.9
36.5°	1515.6	1612.2	1739.0	1769.2	1773.5	1822.4	1850.2	1759.4	1658.8	1645.5	1625.5
37°	1466.3	1580.1	1709.7	1738.2	1739.8	1790.7	1821.6	1727.7	1621.2	1613.8	1595.0
37.5°	1416.6	1548.1	1681.1	1706.5	1706.5	1760.2	1792.6	1694.8	1574.3	1582.5	1565.3
38°	1351.6	1516.0	1651.4	1675.2	1670.9	1728.5	1763.7	1662.7	1521.1	1550.8	1535.9
38.5°	1291.7	1484.3	1622.4	1642.8	1634.9	1696.8	1734.3	1631.0	1460.8	1518.7	1507.4
39°	1231.1	1451.8	1592.3	1612.2	1587.6	1665.5	1704.6	1598.2	1395.8	1482.7	1477.6
39.5°	1169.7	1400.9	1563.3	1579.8	1537.9	1633.0	1674.8	1566.5	1327.0	1438.9	1448.7
40°	1104.3	1343.8	1534.0	1548.1	1478.8	1601.3	1645.1	1520.3	1260.1	1388.8	1420.5
40.5°	1040.1	1283.9	1505.0	1516.4	1413.1	1569.2	1615.8	1472.5	1195.9	1331.7	1393.5
41°	974.8	1225.2	1476.1	1473.3	1346.1	1524.6	1585.6	1417.8	1131.3	1271.8	1366.5
41.5°	911.0	1166.9	1447.9	1432.2	1278.8	1482.7	1557.5	1357.9	1069.5	1210.0	1340.3
42°	850.3	1107.4	1420.1	1380.6	1212.3	1428.7	1528.5	1296.4	1004.5	1147.7	1313.3
42.5°	793.6	1045.2	1392.7	1325.4	1147.4	1371.2	1500.7	1231.1	942.3	1088.3	1287.4
43°	736.9	982.6	1365.7	1266.3	1084.7	1309.4	1473.7	1170.8	877.3	1029.6	1260.4
43.5°	678.9	920.8	1337.9	1204.5	1021.3	1245.6	1446.3	1110.2	815.9	971.6	1234.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	513.4	748.2	1258.1	1024.1	831.2	1060.5	1366.1	931.0	642.2	796.3	1155.2
45.5°	463.3	692.2	1231.5	967.3	770.9	1000.6	1339.1	870.3	586.6	739.6	1128.6
46°	415.6	637.5	1204.5	910.2	713.0	941.1	1311.3	811.2	533.0	684.0	1103.1
46.5°	367.8	583.5	1178.3	852.3	655.9	880.5	1285.1	753.3	480.5	632.0	1060.9
47°	323.6	529.5	1146.6	794.0	599.9	819.0	1257.7	696.5	430.1	578.8	1010.8
47.5°	282.9	479.8	1106.3	737.2	544.7	761.1	1229.5	642.2	387.0	528.3	952.1
48°	245.7	431.6	1058.9	682.5	492.7	704.8	1201.4	589.3	344.4	478.2	887.1
48.5°	213.7	385.5	1007.3	629.6	442.2	649.6	1162.6	536.9	301.7	431.2	822.6
49°	185.9	341.2	958.0	578.8	399.1	595.2	1112.9	485.2	259.1	388.6	756.4
49.5°	162.4	299.4	900.0	527.9	356.5	542.4	1061.3	436.3	223.4	345.9	692.2
50°	142.4	259.8	843.7	477.8	313.4	489.9	1000.2	394.5	191.7	302.9	629.2
50.5°	126.8	223.8	781.1	429.3	270.8	441.4	934.9	352.6	162.8	260.6	570.5
51°	110.7	193.3	715.7	383.1	228.5	398.4	867.2	311.1	137.4	225.8	512.6
51.5°	95.1	167.1	652.3	339.3	196.1	355.3	799.1	269.2	115.0	193.7	459.4
52°	79.4	145.2	590.9	299.0	165.1	312.3	732.9	227.7	93.9	164.0	414.8
52.5°	63.8	128.7	531.0	260.2	137.4	269.2	669.5	194.5	75.1	137.0	370.6
53°	55.6	112.7	477.0	224.2	113.5	226.6	609.3	164.4	60.3	113.5	326.4
53.5°	52.8	96.3	424.2	190.6	92.4	192.5	550.2	138.1	53.6	92.7	281.8
54°	50.9	80.2	374.9	160.8	72.4	161.2	494.6	114.7	51.3	74.0	237.5
54.5°	48.9	64.2	327.9	132.7	57.9	134.6	440.6	93.9	49.3	57.1	203.1
55°	47.0	52.4	286.4	112.3	52.8	110.0	393.7	74.7	47.0	45.8	173.4
55.5°	45.0	47.3	246.5	92.4	50.9	88.0	347.5	57.5	45.0	43.8	146.7
56°	43.0	45.4	210.9	72.0	48.5	68.5	300.9	46.6	43.4	42.3	123.7
56.5°	41.5	43.4	179.2	52.0	46.2	52.4	254.4	44.6	41.5	40.7	103.3
57°	39.9	41.9	151.0	44.6	44.2	45.0	217.6	42.7	39.9	39.1	86.5
57.5°	38.3	40.3	128.4	43.0	42.7	43.0	183.9	41.1	38.3	37.6	72.8
58°	36.8	38.7	111.9	41.5	40.7	41.5	153.4	39.5	36.8	36.4	61.8
58.5°	35.2	37.6	95.5	39.9	39.1	39.9	126.8	38.3	35.2	34.8	53.2
59°	33.7	36.0	79.0	38.3	37.6	38.3	103.3	36.8	33.7	33.7	46.2
59.5°	32.5	34.8	62.6	37.2	36.0	36.8	83.7	35.6	32.5	32.5	41.1
60°	31.3	33.7	54.4	35.6	34.4	35.6	68.9	34.4	31.3	31.3	37.2
60.5°	30.1	32.5	47.3	34.4	32.9	34.4	57.5	32.9	29.7	30.5	33.7
61°	29.0	31.3	41.9	33.3	31.7	32.9	48.9	32.1	28.6	29.3	31.7
61.5°	27.8	30.1	37.2	32.1	30.5	31.7	42.7	30.9	27.4	28.2	30.5
62°	26.6	29.0	34.0	30.9	29.3	30.9	38.0	29.7	26.2	27.4	29.3
62.5°	25.4	28.2	31.7	29.7	28.2	29.7	34.4	28.6	25.0	26.2	28.2
63°	24.3	27.0	30.5	29.0	26.6	28.6	31.7	27.8	23.9	25.4	27.0
63.5°	23.5	26.2	29.7	27.8	25.4	27.4	30.5	26.6	23.1	24.3	26.2
64°	22.3	25.0	28.6	26.6	24.7	26.6	29.3	25.8	21.9	23.5	25.0
64.5°	21.5	24.3	27.8	25.8	23.5	25.4	28.2	24.7	21.1	22.7	24.3
65°	20.7	23.5	26.6	25.0	22.3	24.7	27.0	23.9	20.3	21.9	23.5
65.5°	20.0	22.7	25.8	23.9	21.5	23.9	25.8	23.1	19.2	21.1	22.7
66°	18.8	21.5	24.7	23.1	20.7	22.7	25.0	21.9	18.4	20.3	21.9



TEST NUMBER: P776491

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	16.8	19.2	22.3	20.7	18.0	20.3	22.7	19.6	16.0	18.0	19.6
68°	16.0	18.4	21.5	20.0	17.2	19.6	21.5	18.8	15.7	17.2	18.8
68.5°	15.3	18.0	20.7	19.2	16.4	18.8	20.7	18.0	14.9	16.4	18.0
69°	14.5	17.2	20.0	18.4	15.7	18.0	20.0	17.6	14.1	16.0	17.2
69.5°	14.1	16.4	19.2	17.6	15.3	17.6	19.2	16.8	13.7	15.3	16.4
70°	13.3	15.7	18.4	16.8	14.5	16.8	18.4	16.0	12.9	14.5	15.7
70.5°	12.9	15.3	17.6	16.4	13.7	16.0	18.0	15.3	12.5	14.1	15.3
71°	12.1	14.5	16.8	15.7	13.3	15.7	17.2	14.9	11.7	13.3	14.5
71.5°	11.7	14.1	16.0	14.9	12.5	14.9	16.4	14.1	11.3	12.9	13.7
72°	11.0	13.3	15.7	14.5	12.1	14.1	15.7	13.7	10.6	12.1	13.3
72.5°	10.6	12.9	14.9	13.7	11.3	13.7	14.9	12.9	10.2	11.7	12.5
73°	10.2	12.1	14.1	13.3	11.0	12.9	14.5	12.5	9.8	11.3	12.1
73.5°	9.4	11.7	13.7	12.5	10.6	12.5	13.7	11.7	9.4	10.6	11.3
74°	9.0	11.0	12.9	12.1	10.2	12.1	13.3	11.3	8.6	10.2	11.0
74.5°	8.6	10.6	12.1	11.3	9.4	11.3	12.5	11.0	8.2	9.8	10.2
75°	8.2	10.2	11.7	11.0	9.0	11.0	12.1	10.2	7.8	9.0	9.8
75.5°	7.8	9.4	11.0	10.6	8.6	10.6	11.3	9.8	7.4	8.6	9.4
76°	7.4	9.0	10.6	10.2	8.2	10.2	11.0	9.4	7.0	8.2	8.6
76.5°	7.0	8.6	10.2	9.4	7.8	9.4	10.2	8.6	6.7	7.8	8.2
77°	6.7	8.2	9.4	9.0	7.4	9.0	9.8	8.2	6.3	7.4	7.8
77.5°	6.3	7.8	9.0	8.6	7.0	8.6	9.4	7.8	5.9	7.0	7.4
78°	5.9	7.4	8.6	8.2	6.7	8.2	8.6	7.4	5.5	6.7	6.7
78.5°	5.5	6.7	7.8	7.8	6.3	7.8	8.2	7.0	5.1	5.9	6.3
79°	5.1	6.3	7.4	7.0	5.9	7.4	7.8	6.7	5.1	5.5	5.9
79.5°	4.7	5.9	7.0	6.7	5.5	7.0	7.4	6.3	4.7	5.1	5.5
80°	4.3	5.5	6.7	6.3	5.1	6.3	6.7	5.9	4.3	4.7	5.1
80.5°	3.9	5.1	6.3	5.9	5.1	5.9	6.3	5.1	3.9	4.3	4.7
81°	3.5	4.7	5.9	5.5	4.7	5.5	5.9	4.7	3.5	3.9	4.3
81.5°	3.5	4.3	5.1	5.1	4.3	5.5	5.5	4.7	3.5	3.9	3.9
82°	3.1	3.9	4.7	4.7	3.9	5.1	5.1	4.3	3.1	3.5	3.5
82.5°	2.7	3.5	4.3	4.3	3.5	4.7	4.7	3.9	2.7	3.1	3.1
83°	2.3	3.1	3.9	3.9	3.5	4.3	4.3	3.5	2.3	2.7	2.7
83.5°	2.3	2.7	3.5	3.5	3.1	3.9	3.9	3.1	2.3	2.3	2.3
84°	2.0	2.7	3.1	3.5	2.7	3.5	3.5	2.7	2.0	2.0	2.0
84.5°	1.6	2.3	2.7	3.1	2.7	3.1	3.1	2.3	1.6	1.6	2.0
85°	1.6	2.0	2.3	2.7	2.3	2.7	2.7	2.0	1.6	1.6	1.6
85.5°	1.2	1.6	2.3	2.3	2.3	2.7	2.3	1.6	1.2	1.2	1.2
86°	0.8	1.2	2.0	2.0	2.0	2.3	2.0	1.6	1.2	0.8	0.8
86.5°	0.8	0.8	1.6	2.0	1.6	2.0	2.0	1.2	0.8	0.8	0.8
87°	0.4	0.8	1.2	1.6	1.6	1.6	1.6	0.8	0.8	0.4	0.4
87.5°	0.4	0.4	1.2	1.2	1.2	1.6	1.2	0.8	0.4	0.4	0.4
88°	0.4	0.4	0.8	1.2	1.2	1.2	1.2	0.4	0.4	0.0	0.0
88.5°	0.0	0.4	0.4	0.8	0.8	0.8	0.8	0.4	0.4	0.0	0.0



TEST NUMBER: P776491
CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-4000lm-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	0.4	0.0	0.4	0.0	0.0	0.0	0.0



TEST NUMBER: P776491

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2844.9	2844.9	2844.9	2844.9	2844.9	2844.9
0.5°	2844.1	2841.4	2842.5	2844.1	2844.9	2844.1
1°	2841.8	2838.6	2839.8	2841.4	2842.9	2842.5
1.5°	2839.0	2835.5	2836.7	2838.6	2840.2	2841.0
2°	2836.3	2832.4	2833.2	2835.5	2837.5	2839.0
2.5°	2833.2	2828.9	2829.6	2832.0	2834.3	2836.7
3°	2830.0	2824.5	2825.7	2827.7	2831.2	2833.9
3.5°	2825.7	2819.9	2820.6	2823.8	2827.3	2830.8
4°	2821.4	2814.4	2815.5	2819.1	2823.8	2827.7
4.5°	2816.3	2808.1	2809.3	2813.6	2819.5	2824.2
5°	2810.5	2801.5	2802.6	2808.1	2814.4	2819.9
5.5°	2804.2	2793.6	2795.2	2802.2	2809.3	2815.2
6°	2797.2	2786.2	2787.8	2795.6	2803.4	2809.7
6.5°	2789.7	2777.2	2779.2	2788.2	2797.2	2803.4
7°	2781.9	2768.2	2770.2	2780.3	2789.7	2796.4
7.5°	2772.9	2758.4	2760.4	2771.7	2781.9	2788.9
8°	2763.9	2748.6	2750.6	2762.7	2773.3	2780.3
8.5°	2754.5	2738.1	2740.4	2752.9	2763.5	2771.3
9°	2744.7	2727.1	2729.8	2742.4	2753.7	2762.3
9.5°	2734.5	2715.8	2718.5	2731.4	2743.2	2752.2
10°	2724.4	2704.4	2707.2	2719.7	2732.6	2742.4
10.5°	2713.0	2691.9	2695.0	2707.5	2721.2	2731.8
11°	2701.7	2679.0	2682.5	2694.6	2709.5	2720.5
11.5°	2689.9	2666.1	2669.6	2681.7	2697.0	2708.7
12°	2677.4	2652.0	2655.9	2668.0	2684.1	2696.2
12.5°	2664.1	2637.5	2641.8	2653.5	2670.4	2683.7
13°	2650.8	2622.6	2627.3	2639.1	2656.7	2670.4
13.5°	2636.3	2607.0	2612.1	2624.6	2642.2	2656.3
14°	2621.8	2591.3	2596.0	2608.9	2627.3	2641.8
14.5°	2607.0	2575.7	2580.0	2592.9	2611.3	2626.5
15°	2591.3	2558.8	2563.1	2576.8	2595.6	2611.7
15.5°	2575.7	2541.2	2546.3	2559.6	2578.8	2595.2
16°	2559.2	2524.0	2528.7	2542.4	2561.6	2578.8
16.5°	2542.4	2506.4	2511.1	2524.8	2544.4	2562.4
17°	2524.8	2488.0	2492.3	2506.0	2526.8	2545.1
17.5°	2507.2	2469.2	2473.5	2487.2	2508.0	2527.1
18°	2488.8	2449.3	2454.0	2467.7	2489.6	2509.1
18.5°	2470.0	2429.7	2434.4	2448.1	2470.0	2490.4
19°	2451.2	2409.4	2414.1	2428.1	2450.4	2471.2
19.5°	2431.3	2388.6	2392.9	2407.8	2430.5	2452.0
20°	2411.7	2367.5	2372.2	2386.7	2410.1	2432.1
20.5°	2391.0	2346.4	2350.3	2365.5	2389.4	2411.3
21°	2369.8	2324.8	2328.4	2344.0	2367.5	2390.2



TEST NUMBER: P776491

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2305.3	2258.7	2260.7	2276.7	2301.4	2325.2
23°	2283.4	2235.6	2237.2	2254.0	2277.9	2302.9
23.5°	2261.0	2212.5	2214.9	2230.9	2254.8	2280.6
24°	2238.7	2187.9	2190.6	2207.0	2231.7	2257.9
24.5°	2215.3	2162.8	2167.1	2182.8	2207.8	2234.8
25°	2192.2	2135.8	2142.5	2158.1	2184.0	2211.3
25.5°	2168.3	2108.8	2117.4	2133.9	2159.3	2186.3
26°	2144.0	2081.0	2090.8	2109.2	2135.0	2160.5
26.5°	2117.4	2052.9	2064.6	2084.2	2110.4	2134.3
27°	2090.8	2023.5	2036.8	2058.0	2085.0	2107.3
27.5°	2063.8	1994.2	2008.6	2032.1	2058.7	2079.5
28°	2035.6	1963.6	1979.3	2006.3	2031.3	2051.3
28.5°	2007.1	1933.1	1950.7	1979.3	2003.6	2022.7
29°	1978.1	1901.8	1921.4	1953.9	1975.8	1992.6
29.5°	1949.6	1871.7	1891.6	1927.6	1947.6	1963.3
30°	1919.4	1840.4	1861.1	1900.6	1917.5	1933.1
30.5°	1889.3	1808.3	1831.0	1873.2	1888.5	1902.2
31°	1858.8	1775.8	1800.1	1847.0	1858.8	1871.3
31.5°	1827.9	1744.5	1769.2	1819.2	1829.0	1840.0
32°	1797.3	1712.0	1737.9	1791.5	1798.1	1809.1
32.5°	1767.2	1679.2	1707.3	1762.5	1768.8	1777.4
33°	1735.9	1646.3	1676.0	1735.1	1738.6	1744.9
33.5°	1704.2	1612.2	1644.7	1706.5	1707.7	1712.4
34°	1672.5	1579.8	1612.6	1677.6	1677.2	1679.9
34.5°	1640.8	1546.1	1580.1	1647.8	1646.7	1646.3
35°	1609.1	1514.4	1548.5	1618.1	1615.8	1612.2
35.5°	1577.8	1476.5	1516.4	1588.8	1585.6	1580.1
36°	1545.3	1426.0	1483.9	1559.0	1553.9	1545.7
36.5°	1513.6	1365.7	1452.2	1529.3	1522.6	1515.6
37°	1481.9	1303.5	1421.7	1499.1	1491.3	1466.3
37.5°	1450.2	1242.8	1388.0	1469.4	1460.0	1416.6
38°	1421.3	1179.0	1339.5	1440.1	1428.7	1351.6
38.5°	1372.4	1116.0	1282.7	1411.1	1396.2	1291.7
39°	1318.7	1050.7	1224.8	1382.9	1368.4	1231.1
39.5°	1260.4	985.3	1167.7	1354.0	1319.5	1169.7
40°	1202.1	922.7	1110.2	1325.8	1269.4	1104.3
40.5°	1144.2	860.9	1051.5	1298.4	1211.5	1040.1
41°	1084.0	802.2	990.0	1271.4	1154.8	974.8
41.5°	1023.3	745.1	929.0	1244.4	1100.4	911.0
42°	960.7	687.9	869.9	1217.4	1045.6	850.3
42.5°	900.8	630.4	813.9	1191.6	988.5	793.6
43°	842.1	575.2	759.2	1165.4	929.4	736.9
43.5°	786.2	522.4	704.8	1139.5	870.3	678.9



TEST NUMBER: P776491

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	622.2	375.7	546.3	1061.3	707.1	513.4
45.5°	569.0	331.4	495.8	1022.1	654.3	463.3
46°	516.2	288.8	449.2	980.3	602.2	415.6
46.5°	467.2	251.6	402.3	931.3	551.0	367.8
47°	420.7	218.0	357.7	886.7	500.9	323.6
47.5°	378.0	189.0	314.2	832.3	453.1	282.9
48°	335.8	164.7	274.7	777.2	407.0	245.7
48.5°	293.1	144.8	238.7	713.4	362.8	213.7
49°	250.8	129.1	206.2	654.3	320.5	185.9
49.5°	216.0	113.5	177.7	595.6	280.2	162.4
50°	186.3	97.8	154.6	541.6	243.0	142.4
50.5°	160.0	82.2	133.8	489.1	209.0	126.8
51°	138.9	66.5	118.6	441.4	180.0	110.7
51.5°	120.9	56.0	103.3	394.1	155.7	95.1
52°	105.3	52.4	88.0	351.4	134.2	79.4
52.5°	90.4	50.1	72.8	309.5	118.6	63.8
53°	75.5	48.1	59.1	271.6	102.5	55.6
53.5°	61.4	46.2	48.5	236.0	86.9	52.8
54°	50.5	44.2	45.0	205.1	70.8	50.9
54.5°	45.0	42.3	43.4	176.1	57.1	48.9
55°	43.4	40.7	41.9	151.0	47.3	47.0
55.5°	41.9	39.1	40.3	133.4	44.6	45.0
56°	40.3	37.6	38.7	116.2	43.0	43.0
56.5°	38.7	36.0	37.2	99.0	41.5	41.5
57°	37.6	34.4	36.0	81.4	39.9	39.9
57.5°	36.0	32.9	34.4	64.6	38.3	38.3
58°	34.8	31.7	33.3	55.6	37.2	36.8
58.5°	33.7	30.5	32.1	48.1	36.0	35.2
59°	32.5	29.3	30.9	42.3	34.8	33.7
59.5°	31.3	28.2	29.7	37.6	33.7	32.5
60°	30.1	27.0	29.0	34.0	32.5	31.3
60.5°	29.3	25.8	27.8	32.1	31.3	30.1
61°	28.2	24.7	27.0	30.9	30.1	29.0
61.5°	27.0	23.9	25.8	29.7	29.0	27.8
62°	26.2	22.7	25.0	28.6	28.2	26.6
62.5°	25.0	21.9	23.9	27.8	27.0	25.4
63°	24.3	20.7	23.1	26.6	26.2	24.3
63.5°	23.5	20.0	22.3	25.8	25.0	23.5
64°	22.3	19.2	21.5	25.0	24.3	22.3
64.5°	21.5	18.4	20.7	23.9	23.5	21.5
65°	20.7	17.6	20.0	23.1	22.7	20.7
65.5°	20.0	16.8	19.2	22.3	21.5	20.0
66°	19.2	16.0	18.4	21.5	20.7	18.8



TEST NUMBER: P776491
 CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	17.2	14.1	16.4	19.2	18.4	16.8
68°	16.4	13.3	15.7	18.4	17.6	16.0
68.5°	15.7	12.9	15.3	17.6	17.2	15.3
69°	15.3	12.1	14.5	16.8	16.4	14.5
69.5°	14.5	11.7	14.1	16.4	15.7	14.1
70°	14.1	11.3	13.3	15.7	14.9	13.3
70.5°	13.3	10.6	12.9	14.9	14.5	12.9
71°	12.9	10.2	12.1	14.5	13.7	12.1
71.5°	12.1	9.8	11.7	13.7	13.3	11.7
72°	11.7	9.4	11.3	12.9	12.5	11.0
72.5°	11.3	8.6	10.6	12.5	12.1	10.6
73°	10.6	8.2	10.2	11.7	11.3	10.2
73.5°	10.2	7.8	9.8	11.3	11.0	9.4
74°	9.8	7.4	9.4	10.6	10.2	9.0
74.5°	9.0	7.0	8.6	10.2	9.8	8.6
75°	8.6	6.7	8.2	9.8	9.4	8.2
75.5°	8.2	6.3	7.8	9.0	9.0	7.8
76°	7.8	5.9	7.4	8.6	8.2	7.4
76.5°	7.4	5.9	7.0	8.2	7.8	7.0
77°	7.0	5.5	6.7	7.4	7.4	6.7
77.5°	6.7	5.1	6.3	7.0	7.0	6.3
78°	6.3	4.7	5.9	6.7	6.7	5.9
78.5°	5.9	4.3	5.5	6.3	5.9	5.5
79°	5.5	3.9	5.1	5.9	5.5	5.1
79.5°	5.1	3.9	4.7	5.5	5.1	4.7
80°	4.7	3.5	4.3	4.7	4.7	4.3
80.5°	4.3	3.1	3.9	4.3	4.3	3.9
81°	3.9	3.1	3.5	3.9	3.9	3.5
81.5°	3.5	2.7	3.1	3.5	3.5	3.5
82°	3.1	2.3	3.1	3.1	3.1	3.1
82.5°	2.7	2.3	2.7	3.1	2.7	2.7
83°	2.3	2.0	2.3	2.7	2.3	2.3
83.5°	2.3	1.6	2.0	2.3	2.0	2.3
84°	2.0	1.6	1.6	2.0	1.6	2.0
84.5°	1.6	1.2	1.6	1.6	1.6	1.6
85°	1.2	1.2	1.2	1.6	1.2	1.6
85.5°	1.2	0.8	0.8	1.2	0.8	1.2
86°	0.8	0.4	0.8	0.8	0.8	0.8
86.5°	0.4	0.4	0.4	0.8	0.4	0.8
87°	0.4	0.0	0.4	0.4	0.4	0.4
87.5°	0.0	0.0	0.0	0.0	0.4	0.4
88°	0.0	0.0	0.0	0.0	0.0	0.4
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776491

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-4000lm-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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Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
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°	2368.7	2417.2	2468.1	2507.6	2528.3	2540.4	2533.8	2506.8	2460.6	2424.6	2386.7
22°	2347.1	2396.4	2448.5	2489.6	2511.1	2523.2	2516.6	2488.8	2441.8	2405.4	2365.9



44°	620.6	860.9	1310.9	1143.4	958.3	1182.6	1419.3	1050.7	755.2	912.9	1206.8
44.5°	566.2	803.8	1284.3	1083.2	894.6	1120.0	1392.7	989.3	698.9	854.6	1181.4



66.5°	18.0	20.7	23.9	22.3	19.6	21.9	24.3	21.1	17.6	19.6	20.7
67°	17.2	20.0	23.1	21.5	18.8	21.1	23.5	20.3	16.8	18.8	20.0



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

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21.5°	2348.3	2302.9	2306.0	2322.1	2345.6	2368.7
22°	2327.2	2280.6	2283.4	2299.8	2323.3	2347.1



44°	729.8	470.8	651.2	1113.7	812.8	620.6
44.5°	675.8	423.8	598.3	1087.5	759.9	566.2

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66.5°	18.4	15.3	17.6	20.7	20.0	18.0
67°	18.0	14.9	17.2	20.0	19.2	17.2

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Scaled Data Report



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)