

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: P776473

Luminaire Tested: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-4000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776473
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B068)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS3040CSD-HCD82TRH-HCD82TRLWW-4000lm-4000K
Description: 8 INCH ROUND NARROW LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4486.2 lumens
Efficiency: N/A
Efficacy: 116.5 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.08 / 1.13
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

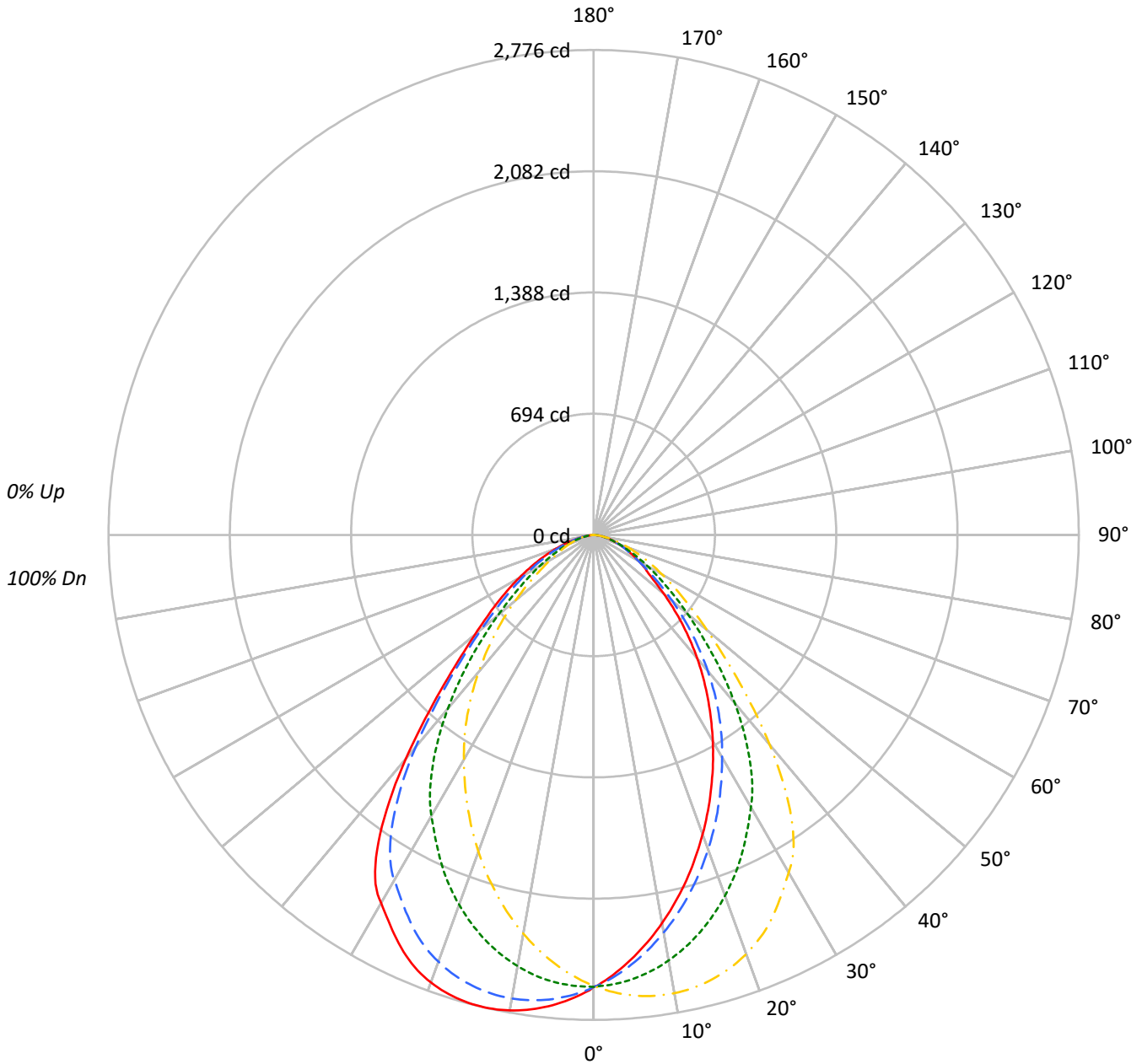
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89																			
2	103	96	91	86	101	95	90	85	91	87	83	88	85	82	85	82	80	78																			
3	96	87	80	75	93	85	79	74	83	77	73	80	75	72	78	74	71	69																			
4	89	79	71	66	87	77	71	65	75	69	64	73	68	64	71	66	63	61																			
5	83	72	64	58	81	71	63	58	69	62	57	67	61	57	65	60	56	54																			
6	77	66	58	52	75	65	57	52	63	56	52	61	56	51	60	55	51	49																			
7	72	60	52	47	71	59	52	47	58	51	47	57	51	46	55	50	46	44																			
8	68	56	48	43	66	55	48	43	54	47	42	52	47	42	51	46	42	40																			
9	64	51	44	39	62	51	44	39	50	43	39	49	43	39	48	42	39	37																			
10	60	48	41	36	59	47	41	36	46	40	36	46	40	36	45	39	35	34																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	78997	78997	78997	78997
5°	74803	78211	82817	78756
10°	69945	76682	85675	77717
15°	64716	74385	87631	75835
20°	59258	71406	88557	73160
25°	53662	67723	87800	69626
30°	48061	63460	85764	65490
35°	42399	57885	80050	59775
40°	36730	50029	66553	51763
45°	30763	41290	52248	42645
50°	24827	33210	42106	33936
55°	20354	26790	35519	26960
60°	18135	21676	30139	21725
65°	15662	17526	25212	17439
70°	13559	13997	20361	13881
75°	11643	11124	15500	10982
80°	9635	8931	9986	8580
85°	6761	6761	2978	6200

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 180°
 Vertical Angle: 45°
 Luminance: 52248 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	242.7	5.4
10°-20°	672.6	15.0
20°-30°	950.3	21.2
30°-40°	999.0	22.3
40°-50°	753.2	16.8
50°-60°	466.9	10.4
60°-70°	262.6	5.9
70°-80°	115.9	2.6
80°-90°	22.9	0.5
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°	1865.6	41.6
0°-40°	2864.7	63.9
0°-60°	4084.7	91.1
0°-90°	4486.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4486.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2588	2588	2588	2588	2588	
5°	2441	2552	2702	2570	2441	227
15°	2048	2353	2772	2399	2048	573
25°	1593	2010	2606	2067	1593	731
35°	1138	1553	2148	1604	1138	710
45°	712	956	1210	988	712	550
55°	382	503	667	506	382	351
65°	217	243	349	241	217	217
75°	99	94	131	93	99	106
85°	19	19	8	18	19	24
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°	2587.5	2587.5	2587.5	2587.5	2587.5	2587.5	2587.5	2587.5	2587.5	2587.5	2587.5
0.5°	2579.0	2580.2	2579.8	2579.8	2583.9	2586.7	2589.5	2602.8	2605.6	2605.6	2600.0
1°	2565.3	2567.3	2569.4	2573.4	2582.3	2590.3	2597.6	2614.1	2617.7	2617.3	2608.9
1.5°	2551.2	2553.6	2558.5	2566.5	2580.2	2593.5	2605.6	2625.0	2630.2	2629.0	2618.1
2°	2536.3	2539.5	2546.8	2558.9	2577.8	2596.4	2612.9	2635.0	2641.9	2639.9	2626.2
2.5°	2521.4	2525.0	2535.1	2550.8	2574.6	2598.4	2619.3	2644.7	2652.8	2650.4	2634.6
3°	2506.1	2510.5	2522.2	2542.8	2571.0	2600.0	2625.8	2653.6	2664.1	2660.4	2641.5
3.5°	2490.4	2495.6	2510.1	2533.9	2567.3	2601.2	2631.8	2662.8	2674.1	2670.1	2648.3
4°	2474.3	2479.9	2496.8	2525.0	2562.5	2602.0	2637.1	2670.9	2683.8	2679.4	2654.8
4.5°	2457.7	2463.8	2483.1	2515.4	2557.7	2602.4	2642.3	2679.0	2693.1	2687.8	2661.2
5°	2440.8	2448.1	2469.0	2505.3	2552.0	2602.0	2646.3	2686.2	2702.3	2696.3	2666.5
5.5°	2423.9	2431.5	2455.3	2494.8	2546.4	2601.6	2650.4	2693.1	2710.8	2704.0	2671.7
6°	2406.6	2414.2	2440.4	2483.5	2539.9	2600.0	2654.0	2699.5	2718.5	2711.2	2676.1
6.5°	2388.8	2396.9	2425.5	2472.2	2533.1	2598.4	2656.8	2705.2	2725.7	2718.1	2680.6
7°	2370.3	2379.6	2409.8	2460.6	2526.2	2596.4	2659.2	2710.8	2733.0	2724.1	2683.8
7.5°	2352.6	2362.2	2394.5	2448.5	2518.2	2593.9	2661.2	2715.6	2739.4	2730.1	2687.0
8°	2333.6	2343.7	2378.3	2436.0	2510.1	2590.3	2662.8	2720.1	2745.5	2735.4	2689.4
8.5°	2314.7	2325.6	2362.2	2423.1	2501.7	2587.1	2663.7	2723.7	2750.7	2740.2	2691.5
9°	2294.9	2306.6	2344.9	2409.8	2492.4	2583.1	2664.1	2727.3	2755.5	2744.2	2693.5
9.5°	2276.0	2287.7	2328.4	2396.1	2483.1	2578.6	2664.1	2730.1	2760.0	2747.9	2694.3
10°	2256.2	2268.3	2311.1	2381.6	2473.5	2573.4	2663.7	2732.2	2763.6	2751.1	2695.1
10.5°	2236.1	2249.0	2293.3	2367.9	2463.0	2567.7	2662.8	2734.2	2766.8	2753.9	2695.1
11°	2216.0	2229.2	2275.2	2353.0	2452.1	2562.1	2661.2	2735.4	2769.6	2755.9	2694.7
11.5°	2195.8	2209.5	2257.5	2337.6	2441.2	2555.7	2659.6	2736.2	2772.1	2758.0	2693.5
12°	2175.3	2189.0	2238.9	2321.9	2429.9	2549.2	2657.2	2736.2	2773.7	2758.8	2692.3
12.5°	2153.9	2168.8	2220.0	2306.6	2417.8	2542.0	2654.0	2736.2	2774.9	2759.6	2690.3
13°	2132.5	2147.8	2201.0	2290.1	2405.8	2534.3	2650.8	2735.4	2775.7	2759.6	2687.8
13.5°	2112.0	2126.9	2182.1	2274.4	2393.7	2526.2	2646.7	2734.2	2775.7	2759.2	2685.0
14°	2090.6	2106.3	2162.8	2257.5	2380.0	2517.8	2642.3	2732.2	2775.3	2758.0	2681.4
14.5°	2068.9	2085.0	2143.0	2240.5	2366.7	2508.5	2637.5	2730.1	2774.1	2756.3	2677.4
15°	2047.5	2064.0	2122.9	2223.2	2353.4	2499.2	2632.2	2726.9	2772.5	2754.3	2672.9
15.5°	2024.9	2042.3	2102.7	2205.5	2339.3	2489.2	2626.2	2723.7	2770.4	2751.9	2668.1
16°	2003.2	2020.5	2082.6	2187.7	2324.8	2479.1	2620.1	2719.7	2767.6	2748.7	2662.4
16.5°	1981.0	1998.7	2062.4	2170.0	2309.8	2468.2	2613.3	2715.2	2764.8	2745.1	2656.4
17°	1958.9	1977.4	2042.3	2151.5	2294.9	2457.3	2606.0	2710.4	2760.8	2740.6	2650.0
17.5°	1936.3	1955.2	2020.9	2133.3	2279.6	2446.0	2598.4	2704.8	2756.3	2735.8	2642.7
18°	1913.7	1933.1	2000.4	2114.0	2263.9	2434.0	2590.3	2698.7	2751.5	2730.1	2635.4
18.5°	1891.2	1910.5	1979.0	2095.5	2247.4	2421.9	2581.4	2691.9	2745.9	2724.1	2627.4
19°	1869.0	1888.3	1958.0	2076.1	2231.3	2409.0	2572.2	2684.6	2739.8	2717.7	2618.5
19.5°	1845.6	1865.8	1936.7	2056.8	2214.7	2396.1	2562.5	2677.0	2733.4	2710.4	2609.3
20°	1823.9	1843.6	1914.9	2037.4	2197.8	2382.4	2552.4	2668.5	2725.7	2701.9	2599.6
20.5°	1800.5	1821.4	1893.6	2017.3	2180.1	2368.7	2542.0	2659.6	2717.7	2693.5	2589.5
21°	1777.9	1798.9	1871.8	1997.1	2162.8	2354.2	2530.3	2650.0	2708.8	2684.6	2578.2

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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°	1708.6	1730.4	1806.1	1936.3	2108.4	2308.2	2493.6	2616.5	2677.4	2652.0	2541.2
23°	1685.6	1707.8	1784.0	1915.3	2089.4	2292.1	2479.9	2603.6	2665.3	2639.5	2527.4
23.5°	1662.7	1684.4	1761.4	1894.4	2070.1	2275.6	2465.4	2590.3	2652.0	2626.2	2512.9
24°	1639.7	1661.9	1740.0	1873.4	2050.7	2258.3	2450.5	2575.0	2637.9	2611.3	2497.2
24.5°	1616.3	1638.9	1717.1	1852.1	2031.0	2240.1	2434.4	2559.3	2622.6	2596.0	2480.7
25°	1593.0	1615.9	1694.9	1830.3	2010.4	2221.6	2417.4	2542.8	2606.4	2579.4	2463.4
25.5°	1570.0	1592.6	1672.3	1808.5	1989.1	2201.8	2399.7	2526.2	2589.9	2563.3	2445.6
26°	1547.0	1570.4	1649.8	1786.8	1968.5	2182.1	2381.6	2508.1	2573.0	2545.2	2427.1
26.5°	1524.0	1547.4	1627.2	1765.0	1946.8	2161.5	2362.6	2490.0	2555.7	2527.9	2409.0
27°	1501.5	1524.4	1605.0	1742.9	1925.0	2141.8	2344.1	2472.2	2537.9	2510.5	2390.0
27.5°	1478.1	1501.5	1582.5	1720.3	1904.0	2121.7	2325.2	2454.9	2520.2	2492.4	2371.5
28°	1454.7	1478.9	1559.5	1698.1	1882.7	2101.5	2306.6	2436.4	2502.1	2474.3	2353.0
28.5°	1431.4	1455.5	1536.9	1676.0	1861.7	2081.0	2286.9	2418.6	2484.7	2456.9	2334.8
29°	1408.8	1433.0	1515.2	1654.2	1840.8	2061.2	2268.3	2400.5	2466.6	2438.8	2315.9
29.5°	1386.2	1410.0	1492.6	1632.4	1820.2	2041.5	2249.4	2383.2	2449.3	2421.1	2297.8
30°	1363.3	1387.4	1470.0	1611.5	1800.1	2022.1	2231.3	2366.3	2432.8	2404.5	2280.8
30.5°	1339.9	1364.9	1447.9	1589.7	1779.1	2002.8	2213.5	2350.1	2417.0	2388.8	2263.9
31°	1317.3	1342.3	1426.5	1568.8	1758.6	1983.8	2196.6	2332.4	2399.7	2370.7	2244.6
31.5°	1294.8	1319.7	1404.8	1546.6	1736.0	1962.1	2176.5	2310.6	2379.2	2349.7	2222.4
32°	1272.2	1297.6	1382.6	1524.9	1712.6	1939.1	2153.9	2285.7	2355.0	2325.2	2196.6
32.5°	1248.8	1274.6	1360.8	1501.5	1687.7	1912.9	2128.5	2259.1	2327.6	2297.4	2169.2
33°	1226.7	1252.8	1338.3	1478.9	1662.3	1886.3	2101.1	2228.0	2296.5	2266.7	2139.8
33.5°	1204.9	1231.1	1316.5	1454.7	1635.3	1857.3	2070.9	2195.4	2263.1	2233.7	2107.6
34°	1182.3	1208.9	1293.5	1429.7	1608.3	1827.9	2039.4	2159.1	2226.8	2198.6	2074.5
34.5°	1160.2	1187.2	1270.6	1405.2	1580.9	1797.3	2005.6	2122.1	2188.5	2161.1	2039.9
35°	1137.6	1165.0	1247.6	1380.6	1553.1	1765.0	1970.9	2081.4	2147.8	2120.8	2004.4
35.5°	1115.4	1142.8	1224.6	1355.2	1524.0	1733.2	1933.9	2039.9	2104.7	2080.6	1966.9
36°	1094.1	1120.7	1201.7	1329.8	1495.4	1700.5	1896.8	1996.3	2060.0	2037.4	1927.4
36.5°	1071.9	1098.9	1178.7	1304.0	1465.6	1666.7	1858.9	1952.8	2014.1	1992.7	1887.1
37°	1050.6	1077.1	1155.7	1279.0	1436.2	1632.0	1817.8	1906.1	1966.9	1946.8	1846.4
37.5°	1028.4	1055.0	1132.0	1253.2	1406.4	1597.8	1777.5	1859.3	1919.0	1899.2	1804.1
38°	1007.0	1033.2	1109.0	1227.1	1375.8	1562.3	1735.2	1812.6	1870.2	1851.7	1761.4
38.5°	985.3	1010.7	1085.6	1200.5	1345.9	1527.7	1693.3	1767.4	1821.0	1803.7	1717.5
39°	963.9	989.3	1062.2	1174.7	1316.9	1491.8	1651.4	1718.3	1770.3	1754.9	1673.5
39.5°	943.0	967.5	1039.3	1148.9	1286.3	1455.5	1608.7	1671.1	1719.9	1705.0	1629.2
40°	921.6	945.8	1015.1	1122.7	1255.3	1419.3	1566.0	1622.8	1669.9	1655.8	1584.5
40.5°	900.2	924.0	992.1	1095.7	1225.0	1383.4	1522.4	1576.8	1619.6	1607.1	1539.4
41°	879.3	902.7	968.7	1069.9	1194.4	1347.1	1480.5	1529.3	1571.2	1558.7	1495.0
41.5°	857.9	881.3	946.2	1044.1	1164.6	1310.5	1438.6	1482.1	1521.2	1510.3	1450.7
42°	836.6	859.9	923.2	1018.3	1134.0	1274.6	1397.1	1437.0	1474.1	1462.4	1407.2
42.5°	816.0	839.0	900.2	993.3	1103.7	1238.7	1356.4	1392.7	1426.9	1415.6	1364.1
43°	795.1	818.0	878.5	967.9	1073.9	1204.1	1315.3	1349.2	1381.0	1370.9	1321.4
43.5°	774.5	797.1	856.3	943.0	1043.7	1169.0	1275.4	1306.4	1335.9	1325.4	1279.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	712.5	735.4	790.6	868.8	956.3	1067.1	1161.4	1185.1	1210.1	1200.9	1160.6
45.5°	692.3	714.5	769.3	845.0	928.0	1034.8	1125.1	1147.7	1171.0	1161.0	1122.3
46°	672.6	694.7	747.9	821.7	900.2	1003.4	1090.0	1111.0	1133.6	1123.9	1085.2
46.5°	653.2	675.4	727.8	798.3	873.2	971.6	1055.8	1075.1	1097.3	1087.2	1049.3
47°	633.5	655.2	706.4	774.1	846.2	940.5	1022.3	1042.1	1063.0	1052.6	1015.9
47.5°	614.1	636.7	685.9	752.4	820.1	911.1	990.1	1009.9	1030.8	1019.5	982.9
48°	595.2	617.8	665.7	729.4	795.1	883.3	959.1	978.8	999.4	988.5	951.0
48.5°	576.7	599.2	645.6	707.2	770.9	855.1	929.7	949.0	968.7	957.5	920.0
49°	557.7	581.5	626.2	685.5	746.3	827.3	900.2	920.8	940.9	929.3	891.4
49.5°	540.8	563.8	606.5	664.5	722.1	801.9	872.8	893.0	913.1	900.2	862.4
50°	522.7	546.0	587.5	643.1	699.2	776.5	845.8	866.8	886.5	874.0	835.4
50.5°	505.3	529.5	568.6	622.2	677.0	751.5	819.2	841.0	860.8	847.9	809.2
51°	488.8	512.2	550.5	602.0	655.2	727.4	794.3	816.8	836.2	822.9	784.2
51.5°	473.1	496.1	532.3	582.7	634.3	704.4	770.5	793.1	812.8	799.5	760.0
52°	457.4	479.5	514.2	563.8	613.7	681.8	746.7	770.9	789.8	776.1	736.6
52.5°	442.5	464.2	497.3	544.8	594.0	660.9	724.1	748.3	768.1	753.6	713.7
53°	428.8	448.9	480.3	526.3	574.6	639.5	702.0	727.4	746.7	732.2	691.9
53.5°	415.5	434.0	463.8	508.6	556.1	619.0	681.0	706.8	726.2	711.2	670.5
54°	403.4	419.5	447.7	491.2	538.0	598.8	660.5	686.7	706.4	691.1	650.8
54.5°	392.5	405.8	432.0	475.1	520.6	580.3	640.3	667.3	686.7	671.4	631.1
55°	382.4	392.9	417.1	458.6	503.3	561.3	621.4	648.4	667.3	652.4	611.7
55.5°	373.2	380.0	402.6	443.3	486.8	543.2	602.8	629.8	648.8	633.9	593.2
56°	364.7	368.3	388.5	427.6	470.3	525.9	584.3	612.1	630.3	616.1	575.0
56.5°	358.2	357.0	375.2	413.0	454.6	508.6	566.6	594.4	612.1	597.6	557.3
57°	350.6	346.6	361.9	398.5	438.8	491.6	549.3	577.1	594.4	580.3	540.4
57.5°	341.7	336.9	349.4	384.4	423.9	475.5	532.3	560.5	577.1	563.8	523.9
58°	332.9	328.8	337.3	370.7	409.4	460.2	515.8	543.6	559.7	547.2	507.7
58.5°	324.0	320.8	325.6	357.8	395.3	444.9	500.1	527.1	542.4	530.3	491.2
59°	315.1	312.7	314.3	344.9	381.6	430.0	484.0	511.0	525.9	513.8	475.9
59.5°	305.9	304.2	303.8	332.5	368.3	415.5	468.7	494.9	509.4	497.7	460.6
60°	297.0	296.2	293.4	320.4	355.0	401.4	453.7	479.5	493.6	482.4	445.7
60.5°	288.1	287.7	283.7	308.7	342.9	388.1	438.4	464.2	477.5	466.6	431.2
61°	279.7	279.3	274.0	297.0	330.8	374.4	423.9	449.3	462.2	451.7	416.7
61.5°	271.2	271.2	264.8	286.1	318.3	361.1	409.8	434.4	446.9	437.2	403.0
62°	263.1	263.1	256.3	275.2	306.3	349.0	396.5	419.9	432.0	423.1	389.3
62.5°	254.7	255.1	247.8	264.8	295.4	336.5	382.8	405.4	417.5	407.8	376.0
63°	247.0	247.4	239.8	254.7	284.1	324.4	369.5	391.7	403.0	394.1	363.1
63.5°	239.0	239.8	232.1	245.0	273.2	312.3	356.6	378.4	388.9	380.4	350.6
64°	231.7	232.1	225.3	235.7	262.7	300.2	344.1	364.7	375.2	367.1	338.1
64.5°	224.1	224.9	218.4	226.9	252.3	288.9	331.6	352.2	361.9	354.2	326.0
65°	216.8	218.0	212.0	218.0	242.6	278.1	319.2	339.7	349.0	341.7	313.5
65.5°	209.9	210.8	205.5	209.5	232.9	267.2	307.1	327.2	336.1	329.2	301.0
66°	202.7	203.9	199.1	201.5	223.2	256.3	295.8	314.7	323.6	316.7	289.7



TEST NUMBER: P776473

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	182.5	184.2	180.1	178.5	196.7	226.5	262.3	278.5	285.3	280.1	256.3
68°	176.5	177.7	174.5	171.7	187.8	216.8	251.5	266.8	273.2	268.4	245.4
68.5°	170.1	171.3	168.4	164.8	179.7	207.5	240.6	255.9	261.9	257.5	235.3
69°	164.0	165.2	162.4	158.4	172.1	198.3	230.5	244.6	250.2	246.2	224.9
69.5°	157.6	159.2	156.8	151.9	164.4	189.8	220.4	234.1	239.4	235.3	215.2
70°	151.9	153.1	151.1	145.5	156.8	181.3	210.8	223.7	228.1	224.9	205.5
70.5°	145.9	147.5	145.1	139.8	149.9	172.9	201.1	213.6	217.6	215.2	196.2
71°	140.2	141.8	139.8	134.6	142.7	164.8	192.2	203.5	207.1	204.7	186.6
71.5°	135.0	136.6	135.0	129.4	136.2	156.8	182.9	194.2	197.1	195.0	177.7
72°	129.8	131.4	129.8	124.1	129.4	149.1	174.1	184.2	186.6	185.4	168.8
72.5°	124.1	125.7	124.9	118.5	122.9	141.8	165.2	175.3	176.9	175.7	160.0
73°	118.9	120.5	119.7	113.6	116.9	134.6	156.8	166.0	167.2	166.8	151.5
73.5°	113.6	115.3	114.4	108.8	110.8	127.3	148.3	157.2	158.0	158.0	143.9
74°	108.8	110.0	109.6	104.4	105.2	120.5	140.6	148.7	149.1	149.5	135.8
74.5°	103.6	105.2	104.8	99.5	99.5	114.0	132.6	140.6	139.8	141.0	127.7
75°	98.7	100.3	100.3	95.1	94.3	107.6	124.9	132.2	131.4	132.6	120.5
75.5°	93.9	95.5	95.5	91.1	89.5	101.5	117.7	124.5	122.9	124.9	113.2
76°	89.5	90.7	91.1	86.6	84.2	95.5	110.4	116.9	114.4	117.3	106.0
76.5°	84.6	86.2	86.6	82.6	79.8	89.5	103.6	109.2	106.4	109.6	99.1
77°	80.2	81.4	82.2	78.6	75.0	84.2	97.1	102.0	98.7	102.4	92.7
77.5°	75.8	77.0	77.8	74.6	70.5	78.6	90.3	95.1	91.1	95.5	86.2
78°	71.3	72.9	73.7	70.5	66.5	73.7	84.2	88.3	83.8	88.7	79.8
78.5°	67.3	68.5	69.3	66.9	62.1	68.5	78.2	81.8	76.6	81.8	74.1
79°	62.9	64.5	65.3	62.9	58.4	63.7	72.1	75.4	69.7	75.8	68.1
79.5°	58.8	60.4	61.3	59.2	54.4	59.2	66.5	69.3	63.3	69.3	62.9
80°	54.8	56.0	57.2	55.6	50.8	54.8	60.8	63.3	56.8	63.7	57.2
80.5°	51.2	52.0	53.6	52.0	47.1	50.4	56.0	57.2	50.8	57.6	52.0
81°	47.1	48.4	50.0	48.8	43.5	46.3	50.8	51.6	44.7	52.0	47.1
81.5°	43.5	44.7	46.3	45.1	40.3	42.3	45.9	45.9	39.5	46.7	42.3
82°	39.9	40.7	42.7	41.9	37.1	38.3	41.5	41.1	34.3	41.9	38.3
82.5°	36.3	37.1	39.1	38.3	33.8	35.1	37.5	36.3	29.4	37.1	34.3
83°	32.6	33.8	35.9	35.1	31.0	31.8	33.4	31.4	24.2	32.2	29.8
83.5°	29.0	30.2	32.2	32.2	28.2	28.2	29.4	26.6	18.9	27.4	25.8
84°	25.8	26.6	29.0	29.0	25.0	25.0	25.4	21.8	14.9	22.6	21.8
84.5°	22.6	23.4	25.8	25.8	22.2	21.8	21.4	17.3	11.3	17.7	18.5
85°	19.3	20.1	22.6	23.0	19.3	18.9	18.1	13.7	8.5	13.7	15.3
85.5°	16.1	16.5	19.7	19.7	16.5	16.1	15.3	10.9	6.4	10.9	12.5
86°	13.7	14.5	16.9	16.9	14.1	13.3	12.5	8.1	5.2	8.1	9.7
86.5°	11.3	12.1	14.1	14.5	11.7	10.9	9.7	5.6	4.0	5.6	7.3
87°	8.9	9.7	11.7	11.7	9.3	8.5	7.3	3.6	2.8	3.6	5.2
87.5°	6.4	7.3	9.3	9.3	6.9	6.0	5.2	2.0	2.0	2.0	3.2
88°	4.4	5.2	6.9	6.4	4.8	4.0	3.2	0.8	0.8	0.8	1.6
88.5°	2.8	3.2	4.0	4.0	2.4	2.0	1.6	0.4	0.4	0.4	0.4



TEST NUMBER: P776473

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776473

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2587.5	2587.5	2587.5	2587.5	2587.5	2587.5
0.5°	2591.5	2585.9	2578.2	2571.4	2579.4	2579.0
1°	2596.4	2585.9	2573.0	2562.1	2566.9	2565.3
1.5°	2600.8	2585.9	2567.3	2552.0	2554.0	2551.2
2°	2605.2	2584.7	2561.3	2541.2	2540.7	2536.3
2.5°	2608.9	2583.5	2554.4	2529.9	2527.0	2521.4
3°	2612.1	2581.4	2547.6	2519.0	2512.9	2506.1
3.5°	2614.5	2579.0	2539.9	2507.3	2498.8	2490.4
4°	2616.9	2576.6	2532.3	2495.2	2483.9	2474.3
4.5°	2618.5	2573.4	2523.8	2482.3	2468.6	2457.7
5°	2619.3	2569.8	2515.4	2469.0	2453.3	2440.8
5.5°	2620.1	2565.7	2505.7	2455.7	2437.2	2423.9
6°	2620.5	2560.9	2496.4	2442.0	2421.1	2406.6
6.5°	2620.1	2555.7	2486.3	2427.5	2404.5	2388.8
7°	2619.3	2550.4	2475.5	2413.4	2387.2	2370.3
7.5°	2618.1	2544.0	2464.6	2397.7	2370.3	2352.6
8°	2616.5	2537.5	2453.3	2382.8	2352.6	2333.6
8.5°	2614.5	2530.7	2441.2	2366.7	2334.8	2314.7
9°	2611.7	2523.0	2428.7	2350.9	2316.3	2294.9
9.5°	2608.4	2515.0	2415.8	2334.0	2297.8	2276.0
10°	2604.8	2506.9	2402.9	2317.9	2279.2	2256.2
10.5°	2600.8	2498.0	2389.6	2300.6	2260.3	2236.1
11°	2596.0	2488.4	2375.9	2283.7	2240.9	2216.0
11.5°	2591.1	2478.7	2361.4	2265.5	2221.2	2195.8
12°	2585.1	2468.6	2346.9	2247.8	2201.4	2175.3
12.5°	2579.4	2458.1	2332.0	2229.7	2181.3	2153.9
13°	2572.6	2447.3	2317.1	2211.1	2161.1	2132.5
13.5°	2565.7	2436.0	2301.4	2192.6	2141.0	2112.0
14°	2558.1	2424.3	2285.3	2173.2	2120.0	2090.6
14.5°	2550.4	2412.2	2268.7	2153.9	2099.5	2068.9
15°	2542.0	2399.3	2252.6	2135.0	2078.1	2047.5
15.5°	2533.1	2386.4	2235.3	2114.4	2056.8	2024.9
16°	2523.8	2372.7	2218.4	2094.7	2035.4	2003.2
16.5°	2514.2	2359.4	2201.0	2074.1	2013.7	1981.0
17°	2503.7	2344.9	2182.9	2054.4	1992.3	1958.9
17.5°	2493.2	2330.4	2165.2	2034.2	1970.5	1936.3
18°	2481.9	2315.5	2146.6	2012.9	1948.8	1913.7
18.5°	2470.6	2300.2	2128.1	1991.9	1926.6	1891.2
19°	2458.1	2284.5	2109.2	1971.3	1904.0	1869.0
19.5°	2445.6	2268.7	2090.2	1950.4	1881.9	1845.6
20°	2432.8	2251.8	2070.9	1929.0	1859.7	1823.9
20.5°	2419.0	2235.7	2051.5	1907.3	1837.6	1800.5
21°	2405.3	2218.4	2031.4	1885.9	1815.0	1777.9

TEST NUMBER: P776473

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2360.6	2165.2	1970.9	1820.6	1747.3	1708.6
23°	2344.5	2146.2	1950.0	1798.5	1723.9	1685.6
23.5°	2327.2	2127.3	1929.0	1776.7	1701.8	1662.7
24°	2309.8	2108.0	1907.7	1753.7	1679.2	1639.7
24.5°	2291.3	2087.8	1886.3	1732.4	1655.8	1616.3
25°	2272.0	2066.9	1864.6	1709.4	1632.8	1593.0
25.5°	2252.6	2046.3	1842.8	1686.8	1610.3	1570.0
26°	2232.5	2025.3	1820.6	1664.7	1587.3	1547.0
26.5°	2212.7	2003.6	1798.5	1642.5	1564.3	1524.0
27°	2193.0	1981.8	1775.9	1619.6	1541.8	1501.5
27.5°	2172.8	1960.9	1753.7	1596.6	1518.4	1478.1
28°	2152.7	1939.9	1731.6	1574.0	1495.8	1454.7
28.5°	2132.9	1918.6	1710.2	1552.3	1472.5	1431.4
29°	2113.6	1898.0	1688.5	1529.7	1450.3	1408.8
29.5°	2094.7	1877.9	1667.5	1507.9	1427.3	1386.2
30°	2076.1	1857.7	1646.1	1485.4	1404.8	1363.3
30.5°	2056.8	1837.6	1624.4	1463.6	1382.2	1339.9
31°	2035.0	1815.8	1602.2	1441.8	1360.0	1317.3
31.5°	2012.0	1793.2	1580.5	1419.7	1337.5	1294.8
32°	1986.3	1768.2	1557.1	1397.5	1314.9	1272.2
32.5°	1958.9	1742.5	1533.3	1374.9	1292.3	1248.8
33°	1929.8	1716.7	1509.1	1352.4	1270.6	1226.7
33.5°	1900.0	1688.9	1484.6	1329.8	1248.4	1204.9
34°	1869.0	1661.1	1459.2	1306.8	1226.2	1182.3
34.5°	1837.6	1632.8	1433.4	1283.5	1204.1	1160.2
35°	1805.3	1603.8	1407.6	1260.1	1182.3	1137.6
35.5°	1771.9	1574.8	1381.8	1236.3	1159.8	1115.4
36°	1738.0	1545.0	1355.6	1213.4	1138.0	1094.1
36.5°	1703.0	1515.6	1329.4	1189.6	1115.8	1071.9
37°	1667.5	1485.0	1302.4	1165.4	1093.7	1050.6
37.5°	1631.6	1454.7	1276.2	1141.6	1071.5	1028.4
38°	1595.4	1423.3	1249.2	1117.8	1049.3	1007.0
38.5°	1559.1	1392.7	1222.6	1094.1	1027.2	985.3
39°	1522.4	1361.2	1196.4	1070.7	1005.0	963.9
39.5°	1485.4	1330.2	1169.0	1046.9	983.3	943.0
40°	1446.7	1298.8	1142.4	1023.1	961.5	921.6
40.5°	1408.8	1266.9	1115.8	999.8	939.3	900.2
41°	1371.7	1235.1	1089.2	976.4	917.6	879.3
41.5°	1333.8	1203.7	1062.6	952.6	895.4	857.9
42°	1296.4	1172.7	1036.4	930.1	874.0	836.6
42.5°	1258.1	1140.4	1010.7	907.5	852.7	816.0
43°	1221.0	1109.8	984.5	884.1	831.7	795.1
43.5°	1184.3	1078.8	957.9	861.2	810.8	774.5

TEST NUMBER: P776473

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1078.0	987.7	881.7	794.3	747.5	712.5
45.5°	1042.9	957.5	856.3	772.1	727.4	692.3
46°	1010.3	928.5	831.7	750.7	706.8	672.6
46.5°	976.4	899.4	807.2	729.4	687.1	653.2
47°	944.6	871.6	783.0	707.6	667.3	633.5
47.5°	913.5	843.4	758.8	686.3	648.0	614.1
48°	884.1	816.4	735.8	665.7	629.0	595.2
48.5°	854.3	789.8	712.5	644.8	609.7	576.7
49°	825.7	764.4	689.9	625.0	591.6	557.7
49.5°	798.7	739.5	667.3	604.9	573.4	540.8
50°	772.5	714.5	645.6	585.1	555.3	522.7
50.5°	746.3	690.3	623.8	565.4	538.0	505.3
51°	722.1	667.3	603.3	546.8	519.8	488.8
51.5°	698.8	645.2	582.7	527.9	503.3	473.1
52°	675.8	623.4	563.0	510.6	486.8	457.4
52.5°	653.2	602.4	543.6	492.4	470.3	442.5
53°	631.9	581.9	524.7	475.1	454.2	428.8
53.5°	610.9	562.1	506.5	458.2	438.4	415.5
54°	591.6	543.2	488.4	442.1	423.1	403.4
54.5°	572.2	525.1	471.5	425.9	408.6	392.5
55°	553.3	506.5	455.0	410.6	394.9	382.4
55.5°	535.6	489.6	438.8	395.7	381.6	373.2
56°	517.8	473.1	423.1	381.6	368.7	364.7
56.5°	500.9	456.6	407.8	367.9	356.6	358.2
57°	484.4	440.5	393.3	354.2	345.8	350.6
57.5°	468.3	425.5	379.2	341.7	334.9	341.7
58°	452.9	411.0	365.5	329.6	325.2	332.9
58.5°	437.6	396.5	352.2	317.9	316.3	324.0
59°	422.7	382.0	339.3	306.7	308.3	315.1
59.5°	408.6	369.1	326.8	295.4	300.6	305.9
60°	394.5	355.8	314.7	285.3	292.6	297.0
60.5°	380.8	342.9	303.0	275.2	284.5	288.1
61°	367.5	329.6	291.8	265.6	276.4	279.7
61.5°	355.0	317.9	280.5	256.3	268.4	271.2
62°	342.5	306.3	269.6	247.8	260.7	263.1
62.5°	330.4	295.0	259.5	239.0	252.7	254.7
63°	317.9	283.3	249.4	230.9	245.0	247.0
63.5°	305.9	272.4	239.8	223.2	237.8	239.0
64°	294.2	261.9	230.1	215.6	230.1	231.7
64.5°	283.3	251.5	221.2	208.3	223.2	224.1
65°	271.6	241.4	212.4	201.9	216.0	216.8
65.5°	261.1	231.7	203.9	195.4	209.1	209.9
66°	250.6	222.0	195.8	189.4	202.3	202.7



TEST NUMBER: P776473

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	220.8	195.4	172.9	171.3	182.1	182.5
68°	211.6	187.0	165.6	165.6	176.1	176.5
68.5°	202.3	178.5	158.8	160.0	169.7	170.1
69°	193.4	170.9	152.3	153.9	164.0	164.0
69.5°	184.6	163.2	145.9	148.7	158.0	157.6
70°	176.1	155.5	140.2	143.5	151.9	151.9
70.5°	167.6	148.3	134.6	138.2	146.3	145.9
71°	159.6	141.8	129.0	133.4	141.0	140.2
71.5°	151.9	135.4	123.3	128.1	135.4	135.0
72°	144.3	129.0	117.3	122.9	130.2	129.8
72.5°	137.0	122.5	112.4	117.7	124.9	124.1
73°	129.8	115.7	107.2	112.8	119.7	118.9
73.5°	122.9	110.0	102.4	108.0	114.4	113.6
74°	116.1	104.0	97.9	103.6	109.2	108.8
74.5°	109.6	98.3	93.1	98.7	104.4	103.6
75°	103.2	93.1	88.7	93.9	99.5	98.7
75.5°	97.1	87.8	84.6	89.5	94.7	93.9
76°	91.1	83.0	80.2	85.0	89.9	89.5
76.5°	85.4	78.2	76.2	81.0	85.4	84.6
77°	80.2	73.3	72.1	76.6	81.0	80.2
77.5°	75.0	68.9	68.5	72.5	76.2	75.8
78°	69.7	64.5	64.9	68.5	72.1	71.3
78.5°	64.9	60.4	60.8	64.5	67.7	67.3
79°	60.0	56.4	57.6	60.4	63.7	62.9
79.5°	55.6	52.4	54.0	56.8	59.6	58.8
80°	50.8	48.8	50.4	52.8	55.6	54.8
80.5°	46.7	45.1	47.1	49.2	51.6	51.2
81°	42.7	41.5	43.9	45.5	48.0	47.1
81.5°	38.7	38.3	40.3	41.9	43.9	43.5
82°	35.5	35.1	37.1	38.7	40.3	39.9
82.5°	31.8	31.8	33.8	35.1	36.7	36.3
83°	28.6	28.6	31.0	31.8	33.0	32.6
83.5°	25.0	25.8	27.8	28.6	29.8	29.0
84°	21.8	23.0	25.0	25.4	26.2	25.8
84.5°	18.5	20.1	22.2	22.6	23.0	22.6
85°	15.7	17.7	19.3	19.7	19.7	19.3
85.5°	12.9	14.9	16.5	16.9	16.5	16.1
86°	10.5	12.5	13.7	14.1	14.1	13.7
86.5°	8.1	10.1	11.3	11.7	12.1	11.3
87°	6.0	7.7	8.9	9.3	9.7	8.9
87.5°	3.6	5.6	6.4	6.4	7.3	6.4
88°	2.0	3.2	3.6	4.0	5.2	4.4
88.5°	0.4	1.2	1.6	2.0	3.2	2.8



TEST NUMBER: P776473

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.4	0.0



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Cooper Lighting Solutions Photometric Lab
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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°	1754.5	1775.9	1849.2	1977.0	2145.0	2339.3	2518.6	2639.5	2699.1	2674.1	2566.1
22°	1731.6	1752.9	1827.9	1956.8	2126.9	2323.9	2506.5	2628.2	2688.6	2663.7	2554.0



44°	753.6	776.1	834.6	917.2	1014.3	1134.4	1236.7	1264.5	1291.9	1282.7	1237.9
44.5°	733.0	755.6	812.4	893.8	985.3	1100.1	1198.8	1224.2	1250.4	1239.9	1198.4



66.5°	195.8	197.1	192.6	193.4	214.0	245.8	284.5	302.2	310.7	304.2	278.5
67°	189.4	190.6	186.6	185.8	205.1	236.1	273.2	290.1	297.8	291.8	267.2



89°	1.2	1.6	2.0	1.6	0.8	0.4	0.4	0.0	0.0	0.0	0.0
89.5°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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21.5°	2390.4	2201.0	2011.6	1864.2	1792.4	1754.5
22°	2375.5	2182.5	1991.1	1842.4	1769.9	1731.6



44°	1148.1	1047.7	932.5	839.0	789.0	753.6
44.5°	1113.0	1017.1	907.1	816.4	768.5	733.0



66.5°	240.6	213.2	187.8	183.4	195.4	195.8
67°	230.5	204.3	180.1	177.3	189.0	189.4

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

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Scaled Data Report



(END OF REPORT)