

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: P776583

Luminaire Tested: HCDJBS4050CSD-HCD42TRH-HCD42TRLWW-5000lm-4000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776583
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B054)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD42TRH-HCD42TRLWW-5000lm-4000K
Description: 4 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: 4679.5 lumens
Efficiency: N/A
Efficacy: 97.5 lumens/watt
Spacing Criteria (0/90/45): 1.05 / 1.01 / 1.07
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

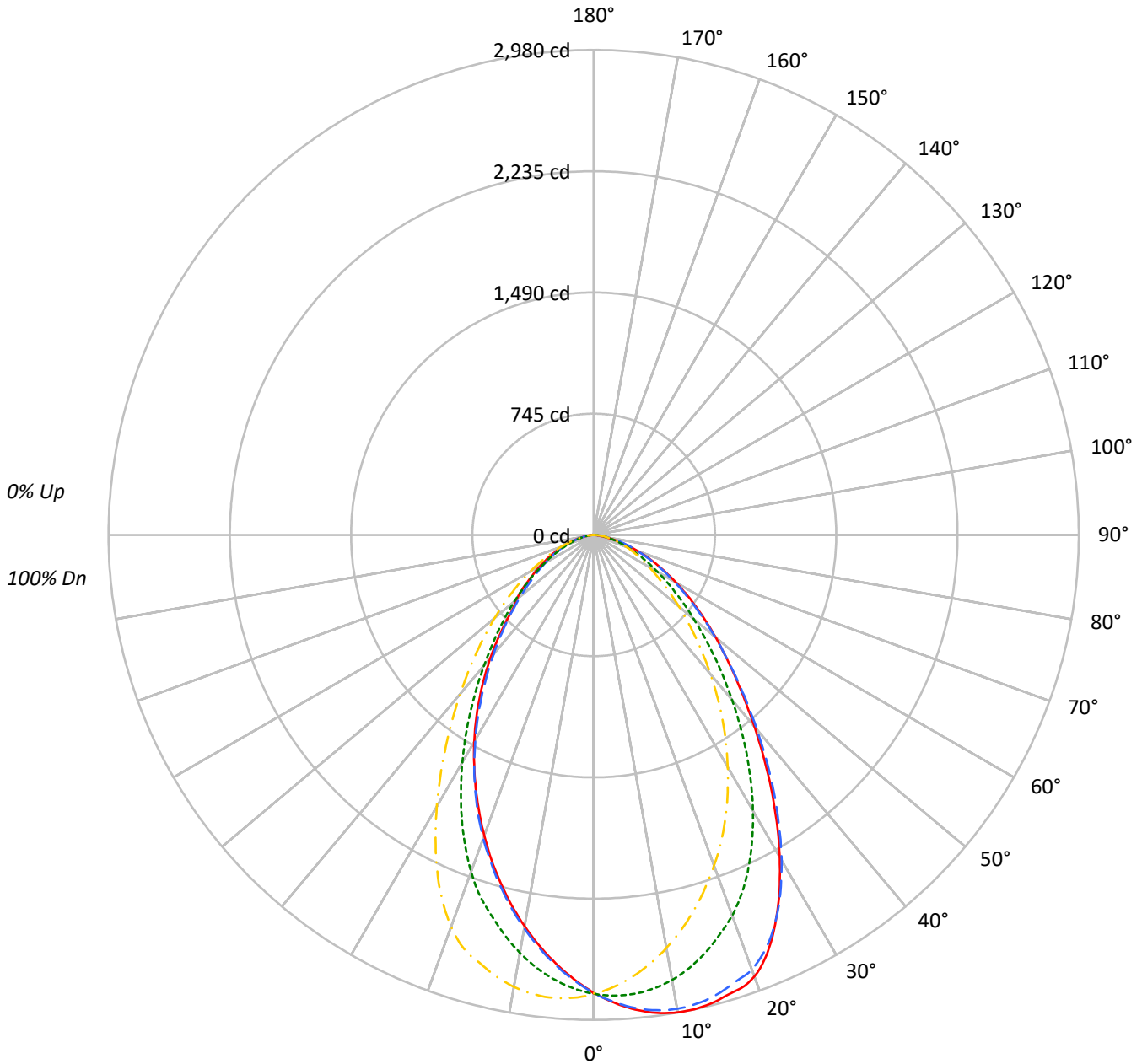
Input Watts (W): 48
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	111	107	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88								
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77								
3	95	86	79	74	93	85	78	73	82	77	72	79	75	71	77	73	70	68								
4	88	78	71	65	86	77	70	64	74	68	64	72	67	63	70	66	62	60								
5	82	71	63	57	80	70	63	57	68	62	57	66	60	56	64	59	56	54								
6	77	65	57	51	75	64	57	51	62	56	51	61	55	50	59	54	50	48								
7	72	60	52	47	70	59	52	46	58	51	46	56	50	46	55	50	45	44								
8	67	55	48	42	66	55	47	42	53	47	42	52	46	42	51	46	42	40								
9	63	51	44	39	62	51	44	39	50	43	38	49	43	38	48	42	38	36								
10	60	48	40	36	58	47	40	36	46	40	35	45	39	35	44	39	35	34								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	354620	354620	354620	354620
5°	369858	357654	334220	346600
10°	380677	354774	311990	333203
15°	385630	346061	288187	315665
20°	386659	333383	263192	294826
25°	366507	312726	238034	266250
30°	332199	284258	213183	234443
35°	291936	251453	187772	202167
40°	252227	217284	161903	172105
45°	218540	185187	136759	146458
50°	191167	157178	120762	124599
55°	167960	133666	107337	105428
60°	146942	113617	94589	88347
65°	127304	96542	83291	73464
70°	103986	81466	70391	60529
75°	77897	69047	56939	50229
80°	46818	60298	40513	39861
85°	17905	55881	14440	23537

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 224324 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	263.4	5.6
10°-20°	720.3	15.4
20°-30°	975.9	20.9
30°-40°	948.5	20.3
40°-50°	750.9	16.0
50°-60°	525.8	11.2
60°-70°	318.8	6.8
70°-80°	146.1	3.1
80°-90°	29.8	0.6
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°	1959.6	41.9
0°-40°	2908.1	62.1
0°-60°	4184.8	89.4
0°-90°	4679.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4679.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2818	2818	2818	2818	2818	
5°	2928	2831	2646	2744	2928	281
15°	2960	2656	2212	2423	2960	836
25°	2639	2252	1714	1917	2639	1205
35°	1900	1637	1222	1316	1900	1186
45°	1228	1040	768	823	1228	952
55°	766	609	489	480	766	687
65°	428	324	280	247	428	424
75°	160	142	117	103	160	173
85°	12	39	10	16	12	21
90°	0	4	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°	2817.8	2817.8	2817.8	2817.8	2817.8	2817.8	2817.8	2817.8	2817.8	2817.8	2817.8
0.5°	2826.4	2827.8	2826.8	2825.4	2824.0	2818.7	2814.9	2813.5	2797.7	2797.2	2800.1
1°	2839.8	2841.7	2840.2	2834.5	2827.3	2816.3	2807.2	2801.0	2782.4	2782.4	2786.2
1.5°	2852.7	2855.1	2851.2	2842.1	2830.2	2813.9	2799.1	2789.1	2766.6	2765.6	2771.4
2°	2865.1	2868.4	2862.2	2850.3	2832.1	2810.1	2790.5	2775.7	2750.8	2748.9	2755.6
2.5°	2877.0	2881.4	2873.2	2857.4	2834.0	2806.3	2780.9	2762.8	2734.1	2732.2	2739.8
3°	2888.5	2892.8	2883.7	2863.7	2834.5	2801.0	2770.9	2747.9	2716.9	2715.0	2724.0
3.5°	2899.5	2904.3	2892.8	2869.4	2835.0	2795.8	2760.4	2734.1	2699.7	2696.8	2707.3
4°	2909.6	2914.8	2901.9	2874.2	2834.0	2789.5	2749.4	2718.8	2682.4	2678.6	2690.6
4.5°	2919.1	2924.9	2910.0	2878.5	2833.1	2783.3	2737.9	2703.0	2663.8	2660.0	2672.9
5°	2927.7	2934.9	2917.7	2882.3	2831.1	2775.7	2725.5	2687.2	2645.6	2640.8	2655.7
5.5°	2935.9	2944.0	2924.9	2885.2	2828.8	2768.0	2713.0	2671.0	2626.0	2621.2	2636.5
6°	2943.5	2952.1	2931.1	2888.0	2825.4	2758.9	2699.2	2653.7	2607.4	2601.2	2618.4
6.5°	2950.2	2959.8	2936.8	2890.0	2821.6	2750.3	2685.8	2636.5	2587.8	2581.5	2598.8
7°	2956.4	2966.5	2941.6	2890.9	2817.3	2740.3	2671.4	2619.3	2567.7	2561.0	2578.7
7.5°	2962.2	2972.7	2945.9	2890.9	2811.5	2730.3	2657.1	2601.2	2547.6	2539.9	2559.1
8°	2966.5	2977.9	2949.7	2890.9	2805.8	2719.3	2641.8	2582.5	2527.0	2518.4	2539.0
8.5°	2970.8	2982.7	2952.6	2890.0	2799.6	2708.3	2626.0	2563.4	2506.0	2497.9	2518.9
9°	2974.1	2987.0	2955.0	2888.0	2792.4	2695.8	2609.8	2544.7	2485.0	2475.9	2497.9
9.5°	2977.0	2990.4	2955.9	2885.2	2784.8	2683.4	2593.5	2525.1	2463.0	2453.9	2476.4
10°	2978.9	2992.8	2956.9	2881.8	2776.2	2670.0	2576.8	2506.0	2441.4	2431.9	2454.8
10.5°	2979.9	2994.7	2956.4	2878.0	2767.1	2656.6	2559.1	2485.4	2419.5	2409.4	2433.3
11°	2980.3	2995.6	2955.9	2873.7	2757.0	2642.3	2540.9	2464.9	2397.5	2386.9	2411.3
11.5°	2980.3	2996.1	2954.5	2868.0	2746.5	2627.9	2523.2	2444.3	2375.0	2364.0	2388.9
12°	2979.4	2996.1	2952.1	2862.2	2735.5	2612.6	2504.6	2423.8	2352.5	2341.0	2365.9
12.5°	2977.9	2995.2	2949.2	2855.5	2723.6	2596.4	2485.4	2402.2	2329.6	2317.1	2343.4
13°	2975.5	2993.2	2945.4	2848.4	2711.6	2580.6	2466.3	2380.7	2306.6	2294.2	2321.0
13.5°	2972.2	2991.3	2941.6	2840.2	2698.7	2564.3	2446.7	2358.7	2283.2	2270.3	2297.5
14°	2968.9	2987.5	2936.3	2830.7	2685.3	2546.6	2426.1	2336.7	2259.8	2245.9	2274.1
14.5°	2964.5	2983.7	2930.6	2821.1	2671.0	2529.0	2405.6	2314.3	2235.8	2222.5	2250.2
15°	2959.8	2979.4	2923.9	2811.1	2656.1	2510.3	2385.0	2291.8	2211.9	2197.6	2226.3
15.5°	2953.6	2973.6	2916.7	2800.5	2641.3	2492.1	2364.0	2268.8	2188.0	2173.7	2201.9
16°	2946.9	2967.9	2908.6	2789.1	2625.1	2473.0	2342.0	2245.9	2164.1	2149.3	2178.0
16.5°	2941.6	2961.2	2900.0	2777.1	2608.8	2453.9	2320.5	2222.5	2139.7	2124.9	2153.6
17°	2937.3	2955.0	2891.4	2764.7	2591.6	2433.8	2299.0	2199.5	2115.3	2099.1	2129.7
17.5°	2933.5	2950.7	2882.3	2750.8	2574.9	2413.7	2276.5	2175.6	2090.5	2074.2	2105.3
18°	2929.6	2946.9	2875.1	2738.4	2557.6	2393.2	2253.5	2151.7	2065.6	2049.4	2080.4
18.5°	2922.5	2942.6	2868.4	2726.0	2540.9	2373.1	2231.1	2127.8	2040.8	2024.5	2056.1
19°	2913.4	2936.3	2861.7	2714.5	2524.2	2352.5	2208.1	2103.9	2015.9	1999.6	2032.6
19.5°	2901.0	2926.8	2853.1	2702.5	2507.4	2332.4	2186.1	2080.0	1990.6	1974.8	2008.2
20°	2887.1	2915.3	2841.7	2689.1	2489.3	2310.9	2162.2	2056.1	1965.2	1949.4	1983.4
20.5°	2871.3	2901.4	2827.8	2673.4	2469.2	2289.9	2139.7	2031.2	1939.9	1924.1	1958.0
21°	2852.7	2886.1	2811.5	2657.1	2447.7	2266.4	2115.3	2006.3	1915.5	1899.2	1932.2



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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°	2784.8	2827.8	2756.1	2595.9	2380.7	2195.2	2043.1	1932.2	1839.5	1823.7	1855.2
23°	2758.0	2804.4	2735.0	2574.4	2355.9	2170.3	2017.8	1906.9	1814.1	1798.8	1828.9
23.5°	2730.3	2780.0	2712.1	2551.4	2331.5	2145.5	1992.9	1882.0	1789.7	1773.5	1802.2
24°	2701.6	2753.7	2688.7	2527.0	2305.7	2118.7	1967.1	1857.1	1764.4	1748.6	1775.9
24.5°	2671.0	2725.5	2662.8	2501.2	2279.4	2092.4	1941.3	1831.3	1739.0	1723.3	1749.6
25°	2639.4	2695.8	2636.1	2474.9	2252.1	2065.6	1914.5	1806.0	1714.2	1698.4	1723.3
25.5°	2607.4	2664.7	2607.4	2448.1	2224.8	2038.4	1888.7	1780.6	1689.3	1672.6	1696.0
26°	2574.4	2633.2	2578.2	2419.9	2197.1	2011.1	1862.9	1755.3	1664.9	1646.8	1669.2
26.5°	2539.9	2601.2	2548.1	2391.7	2168.4	1982.9	1836.1	1729.5	1639.6	1621.9	1642.5
27°	2506.0	2567.2	2516.5	2362.1	2138.8	1954.7	1809.3	1703.7	1615.2	1596.6	1615.7
27.5°	2471.1	2532.8	2484.0	2332.0	2109.6	1927.0	1782.1	1678.3	1589.9	1571.2	1588.4
28°	2434.3	2496.9	2449.6	2300.4	2079.5	1899.2	1755.3	1653.0	1565.5	1545.9	1561.2
28.5°	2397.9	2460.6	2414.2	2268.8	2049.8	1870.1	1728.5	1626.7	1541.1	1520.5	1534.4
29°	2361.1	2424.2	2379.8	2236.8	2018.8	1840.9	1701.3	1600.9	1516.7	1495.2	1507.6
29.5°	2323.3	2387.4	2344.9	2203.3	1987.7	1812.7	1674.5	1575.5	1491.8	1470.3	1480.8
30°	2286.0	2349.2	2308.5	2170.8	1956.1	1783.5	1646.8	1550.2	1467.0	1445.0	1453.6
30.5°	2247.8	2311.4	2271.2	2136.9	1924.6	1753.9	1619.5	1524.4	1442.1	1420.1	1427.3
31°	2209.1	2272.7	2233.9	2102.0	1894.0	1725.2	1592.7	1498.5	1417.7	1394.8	1401.0
31.5°	2171.3	2233.5	2196.6	2067.5	1861.4	1695.5	1565.5	1473.2	1393.3	1369.4	1375.2
32°	2132.1	2193.8	2158.4	2031.7	1829.4	1666.8	1538.7	1447.8	1369.0	1345.0	1348.9
32.5°	2092.9	2154.1	2120.1	1996.3	1797.4	1637.7	1511.0	1422.5	1344.1	1320.2	1322.1
33°	2054.1	2114.9	2082.4	1960.9	1764.9	1608.0	1484.2	1397.6	1319.7	1295.3	1295.8
33.5°	2014.9	2075.7	2045.5	1925.0	1733.3	1578.9	1457.4	1371.3	1295.3	1270.5	1270.9
34°	1976.7	2036.0	2006.8	1888.7	1700.8	1548.7	1430.6	1346.5	1270.9	1245.6	1244.6
34.5°	1938.4	1995.8	1968.1	1852.8	1668.3	1519.6	1403.9	1321.6	1246.1	1221.2	1219.3
35°	1900.2	1956.6	1929.3	1817.0	1636.7	1490.9	1376.6	1296.8	1222.2	1197.3	1193.5
35.5°	1861.9	1917.9	1891.1	1781.6	1604.2	1461.7	1350.8	1271.4	1198.3	1173.4	1169.1
36°	1823.2	1879.1	1853.3	1746.2	1572.2	1432.5	1324.5	1247.0	1173.9	1149.5	1144.2
36.5°	1786.4	1840.9	1815.5	1710.4	1539.7	1403.4	1297.7	1222.6	1150.0	1125.6	1119.8
37°	1748.6	1801.7	1777.8	1675.9	1509.1	1375.6	1270.9	1198.3	1125.6	1101.7	1095.4
37.5°	1712.3	1763.4	1741.0	1641.0	1476.5	1346.5	1244.6	1173.9	1102.6	1078.7	1071.5
38°	1675.4	1726.1	1702.7	1605.2	1445.9	1318.3	1219.3	1150.4	1078.7	1055.3	1047.6
38.5°	1640.1	1688.8	1666.4	1571.7	1414.9	1290.1	1192.5	1126.1	1055.3	1031.9	1025.2
39°	1604.7	1652.0	1629.5	1536.8	1384.3	1262.8	1166.7	1102.6	1032.3	1008.9	1001.7
39.5°	1570.3	1616.2	1595.1	1504.3	1352.7	1234.6	1140.9	1078.7	1008.9	986.4	978.8
40°	1535.3	1580.8	1559.3	1469.4	1322.6	1206.9	1116.0	1055.3	985.5	963.5	956.3
40.5°	1502.4	1546.3	1524.4	1437.8	1292.9	1178.6	1090.7	1030.9	963.0	941.0	934.8
41°	1469.4	1511.0	1489.9	1404.8	1262.8	1152.8	1066.3	1007.9	940.5	919.0	912.8
41.5°	1436.4	1478.4	1456.5	1372.3	1233.2	1125.1	1041.9	984.5	918.1	897.0	891.8
42°	1404.8	1445.0	1423.0	1339.8	1204.9	1098.8	1018.0	962.5	895.6	876.0	871.7
42.5°	1374.2	1412.5	1390.9	1310.1	1176.7	1073.5	994.1	939.6	874.1	855.4	851.6
43°	1343.6	1381.4	1359.4	1279.5	1148.5	1048.1	971.1	917.6	852.1	834.9	831.0
43.5°	1314.0	1350.3	1327.4	1249.4	1120.8	1022.8	947.7	895.1	830.6	815.3	810.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1227.9	1260.4	1237.0	1161.4	1040.5	950.6	880.8	832.5	768.4	759.3	754.0
45.5°	1200.2	1232.2	1207.8	1133.2	1014.6	927.1	859.7	812.9	748.3	741.6	735.9
46°	1173.4	1204.5	1179.6	1106.0	989.3	904.7	838.7	793.3	729.2	723.4	717.7
46.5°	1147.1	1176.7	1151.4	1078.7	964.4	881.7	818.6	773.7	710.5	705.8	699.5
47°	1121.3	1149.5	1124.6	1051.9	939.6	859.2	798.0	754.5	692.8	689.0	681.8
47.5°	1096.4	1123.2	1097.4	1026.1	915.7	837.7	778.0	735.9	676.1	672.8	664.6
48°	1071.1	1096.9	1070.6	999.3	891.8	815.7	758.4	717.7	661.3	656.5	648.4
48.5°	1046.2	1072.0	1045.2	975.0	868.8	795.2	738.7	699.5	648.4	640.7	631.6
49°	1022.8	1047.2	1019.9	950.6	846.3	774.6	720.1	682.3	636.9	625.4	615.9
49.5°	999.3	1022.8	995.5	926.7	824.3	754.5	701.0	665.1	626.4	611.1	600.1
50°	976.4	999.3	971.6	902.8	802.8	734.9	682.8	648.4	616.8	597.7	584.8
50.5°	953.9	975.4	947.2	879.3	781.3	715.3	665.1	632.1	607.3	584.3	569.0
51°	931.4	952.5	923.8	856.9	760.3	696.7	647.4	616.3	596.3	572.3	554.7
51.5°	909.4	930.0	901.3	834.9	740.7	678.5	630.7	601.0	583.3	561.4	540.8
52°	887.9	907.5	878.8	812.4	720.6	660.3	613.5	586.2	569.0	548.4	526.4
52.5°	866.9	885.5	856.9	791.3	701.0	642.6	597.2	571.9	555.1	535.5	512.6
53°	846.3	864.5	834.9	770.8	681.8	624.9	581.0	558.5	541.7	522.6	499.2
53.5°	825.3	843.0	813.8	749.7	663.2	607.7	565.2	544.6	527.9	509.7	485.8
54°	805.2	822.4	792.8	729.7	645.0	591.0	549.9	532.2	514.5	497.3	472.9
54.5°	785.1	801.4	771.7	710.1	626.4	574.7	534.6	520.7	502.1	484.8	460.5
55°	765.5	781.8	752.6	690.5	609.2	559.0	520.2	508.8	489.2	473.4	448.5
55.5°	745.9	761.7	732.5	671.8	592.0	542.7	505.9	496.8	477.2	460.5	436.6
56°	726.8	742.1	712.9	652.7	575.2	526.9	491.5	484.4	464.8	448.5	425.1
56.5°	708.1	723.0	693.8	634.5	559.0	512.1	477.7	472.4	452.8	437.5	414.6
57°	690.0	704.3	675.2	616.8	542.2	496.8	464.3	460.5	440.9	426.5	404.0
57.5°	670.8	685.2	657.0	599.1	526.4	482.5	451.4	449.0	429.9	415.0	394.0
58°	653.2	666.5	638.3	581.9	510.7	468.1	438.9	437.5	418.4	404.5	383.5
58.5°	635.5	648.4	620.6	564.7	496.3	454.2	426.5	426.0	407.9	394.0	373.4
59°	617.8	631.2	603.4	548.0	481.0	440.4	414.6	415.0	396.9	383.5	362.9
59.5°	600.6	612.5	585.7	531.7	466.2	427.0	403.6	404.5	386.3	373.0	353.4
60°	583.8	596.3	569.0	515.9	451.4	414.1	392.6	394.0	375.8	362.4	343.8
60.5°	567.1	579.0	552.3	499.7	438.0	402.1	381.6	383.5	365.3	352.4	334.2
61°	550.4	562.3	536.0	484.8	424.1	389.7	370.6	373.0	355.3	342.8	324.7
61.5°	534.1	545.1	519.3	469.5	411.2	377.3	359.6	362.4	345.2	332.8	315.6
62°	518.3	529.8	504.0	454.7	398.3	364.8	350.0	352.4	335.7	323.2	306.5
62.5°	503.0	513.5	488.7	440.4	385.4	352.9	340.0	342.8	325.6	313.7	297.4
63°	487.2	497.8	472.9	426.0	372.5	341.4	330.4	332.8	316.5	305.1	288.3
63.5°	471.9	482.0	458.1	412.2	359.6	330.4	320.8	323.2	307.0	295.5	279.7
64°	457.1	466.7	443.2	398.3	347.1	319.4	312.2	313.7	297.9	286.9	271.1
64.5°	442.3	451.9	428.9	384.9	335.7	308.9	303.1	304.6	288.8	277.8	263.0
65°	427.5	437.5	414.6	371.5	324.2	298.4	294.5	296.0	279.7	269.2	254.4
65.5°	412.6	422.2	400.2	359.1	312.7	288.3	285.5	286.9	270.2	260.6	246.2
66°	397.3	408.3	386.8	346.7	301.7	278.3	277.3	277.8	261.1	252.0	238.6



TEST NUMBER: P776583

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRH-HCD42TRLWW-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	353.4	365.8	346.7	309.8	270.2	250.6	252.0	252.0	233.8	226.6	215.2
68°	339.0	351.9	333.8	298.4	260.1	241.5	244.3	243.4	225.2	218.5	207.5
68.5°	324.2	338.1	321.3	287.4	250.1	232.9	236.2	234.8	216.6	209.9	200.3
69°	310.3	324.2	309.4	275.9	240.5	224.3	228.6	226.6	208.0	202.3	193.2
69.5°	296.5	310.8	297.4	265.4	230.9	216.6	220.4	218.0	199.4	194.1	186.0
70°	282.6	297.4	285.5	254.4	221.4	208.5	213.3	209.9	191.3	186.5	178.8
70.5°	269.7	284.5	274.0	243.9	212.3	200.8	205.6	202.3	183.6	178.8	172.1
71°	256.3	272.1	262.5	233.8	203.7	193.7	198.4	194.1	175.5	170.7	165.0
71.5°	243.4	259.2	251.5	223.8	195.1	186.5	191.3	186.5	167.8	163.5	158.3
72°	230.5	247.2	241.0	214.2	187.0	179.3	184.1	178.8	160.2	156.4	151.6
72.5°	218.5	235.7	230.0	205.1	178.8	172.6	177.4	171.2	152.5	148.7	144.9
73°	206.6	223.8	219.5	196.0	171.2	165.4	170.2	164.0	144.9	142.0	138.7
73.5°	194.1	212.8	209.4	186.5	163.5	159.2	163.5	156.4	137.7	134.8	132.4
74°	182.7	201.3	198.9	177.9	156.4	153.0	156.8	149.7	130.5	127.7	126.2
74.5°	170.7	190.3	189.3	171.7	149.2	146.8	150.6	142.5	123.8	121.0	119.5
75°	160.2	179.8	179.8	163.5	142.0	140.6	143.9	135.8	117.1	114.3	113.8
75.5°	149.7	169.3	169.7	155.4	135.3	134.8	137.7	129.1	110.5	108.1	107.6
76°	139.1	160.2	161.1	146.8	129.1	129.1	131.5	122.4	103.8	101.4	101.8
76.5°	128.6	150.6	152.5	138.7	122.4	123.4	125.3	115.7	97.1	95.2	96.1
77°	118.6	141.1	144.4	131.0	116.7	117.6	119.1	109.5	90.8	88.9	90.4
77.5°	108.5	131.5	135.8	123.8	110.5	112.4	112.8	103.3	84.6	83.2	85.1
78°	99.0	122.4	127.2	117.1	104.7	107.1	107.6	97.1	78.9	77.0	79.9
78.5°	89.9	114.3	119.1	110.5	99.0	101.4	101.4	90.8	72.7	71.2	74.1
79°	80.8	105.7	111.4	103.8	93.2	96.1	96.1	84.6	66.9	65.5	68.9
79.5°	72.7	97.5	103.8	97.1	88.0	91.3	90.4	78.9	61.2	60.2	64.1
80°	64.6	89.4	96.1	90.8	83.2	86.1	85.1	73.2	55.9	54.5	58.8
80.5°	57.4	82.2	88.9	85.1	77.9	81.3	79.9	67.9	50.2	49.2	54.0
81°	50.2	75.1	82.2	79.4	73.2	76.5	74.6	62.2	45.4	44.5	49.2
81.5°	43.5	68.4	75.5	73.6	68.4	71.7	69.3	56.9	40.2	39.7	44.9
82°	36.8	61.7	68.9	68.4	63.6	66.9	64.6	51.6	35.4	34.9	40.6
82.5°	30.6	55.0	62.6	63.1	59.3	62.2	59.3	46.9	30.1	30.1	36.3
83°	25.3	48.8	56.9	57.9	55.0	57.9	54.5	42.1	24.9	25.3	32.0
83.5°	20.6	43.0	51.2	53.1	50.7	53.6	50.2	37.3	20.6	21.5	27.7
84°	16.7	36.8	45.9	48.3	46.4	48.8	45.9	32.5	16.3	18.2	23.9
84.5°	14.3	31.6	40.6	44.0	42.6	44.9	41.6	27.7	12.4	15.3	20.6
85°	12.4	26.3	35.9	39.7	38.7	40.6	37.8	23.9	10.0	12.9	16.7
85.5°	10.0	21.5	31.6	35.4	34.9	36.8	33.5	20.6	8.6	10.5	13.4
86°	8.1	17.2	27.3	31.6	31.1	32.5	29.2	17.7	7.2	8.6	9.6
86.5°	6.7	14.3	23.4	27.3	27.3	28.2	25.3	15.3	5.7	6.2	6.7
87°	5.7	11.5	19.6	23.9	23.9	24.4	21.5	12.4	4.3	4.3	3.8
87.5°	4.3	8.6	16.7	20.6	20.6	20.6	17.7	10.0	2.9	2.4	1.4
88°	3.3	5.7	13.9	17.2	16.7	17.2	14.3	7.7	1.9	1.0	0.5
88.5°	2.4	3.8	10.5	13.9	13.4	13.4	11.0	5.3	0.5	0.5	0.0



TEST NUMBER: P776583

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRH-HCD42TRLWW-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	1.0	2.9	5.3	4.3	3.8	1.9	0.5	0.0	0.5	0.0



TEST NUMBER: P776583

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRH-HCD42TRLWW-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2817.8	2817.8	2817.8	2817.8	2817.8	2817.8
0.5°	2804.8	2815.4	2820.6	2828.3	2835.4	2826.4
1°	2794.3	2809.6	2821.1	2833.5	2845.5	2839.8
1.5°	2782.9	2803.4	2820.6	2838.8	2855.1	2852.7
2°	2771.4	2797.2	2819.2	2843.1	2864.1	2865.1
2.5°	2758.9	2789.5	2817.8	2846.9	2872.7	2877.0
3°	2746.0	2781.9	2814.9	2849.8	2880.4	2888.5
3.5°	2732.2	2773.3	2812.0	2852.7	2887.6	2899.5
4°	2718.3	2764.2	2807.7	2854.1	2893.3	2909.6
4.5°	2704.0	2754.2	2803.4	2855.1	2899.0	2919.1
5°	2688.7	2743.6	2798.2	2855.5	2904.8	2927.7
5.5°	2672.9	2733.1	2791.9	2855.1	2909.1	2935.9
6°	2657.1	2721.2	2785.7	2854.1	2912.4	2943.5
6.5°	2640.8	2708.7	2778.5	2852.2	2915.3	2950.2
7°	2623.1	2695.8	2770.4	2849.3	2917.7	2956.4
7.5°	2605.9	2682.4	2761.8	2846.0	2919.6	2962.2
8°	2588.2	2669.1	2752.7	2842.1	2920.1	2966.5
8.5°	2569.6	2654.2	2742.7	2837.8	2920.1	2970.8
9°	2550.9	2638.9	2732.2	2832.6	2919.6	2974.1
9.5°	2531.3	2623.1	2721.2	2826.4	2918.6	2977.0
10°	2511.7	2607.4	2709.7	2819.7	2916.7	2978.9
10.5°	2491.7	2590.6	2697.7	2812.5	2914.3	2979.9
11°	2471.6	2573.9	2684.4	2804.4	2911.0	2980.3
11.5°	2451.0	2556.2	2670.5	2795.8	2906.7	2980.3
12°	2430.0	2537.6	2657.1	2786.7	2901.9	2979.4
12.5°	2408.9	2519.4	2642.8	2776.6	2896.7	2977.9
13°	2387.4	2500.7	2627.5	2766.1	2890.9	2975.5
13.5°	2364.9	2481.6	2611.7	2755.6	2884.2	2972.2
14°	2342.5	2461.5	2595.4	2743.2	2876.6	2968.9
14.5°	2320.0	2442.4	2580.1	2731.2	2869.4	2964.5
15°	2298.5	2422.8	2563.9	2719.7	2860.3	2959.8
15.5°	2276.0	2403.7	2549.0	2709.7	2853.1	2953.6
16°	2254.0	2384.1	2534.2	2700.6	2847.4	2946.9
16.5°	2231.5	2364.9	2519.4	2690.1	2841.7	2941.6
17°	2209.1	2345.3	2502.2	2677.7	2835.0	2937.3
17.5°	2186.1	2324.3	2482.6	2661.9	2825.9	2933.5
18°	2163.2	2301.8	2461.5	2645.1	2813.0	2929.6
18.5°	2139.3	2278.4	2439.1	2626.0	2797.7	2922.5
19°	2114.4	2253.1	2415.6	2605.9	2780.5	2913.4
19.5°	2089.1	2227.7	2391.7	2583.9	2762.8	2901.0
20°	2063.2	2201.4	2367.3	2561.0	2742.2	2887.1
20.5°	2036.5	2175.6	2341.0	2537.1	2721.2	2871.3
21°	2010.2	2147.9	2314.3	2511.3	2697.7	2852.7

TEST NUMBER: P776583

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRH-HCD42TRLWW-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1927.9	2064.2	2231.5	2429.5	2619.3	2784.8
23°	1900.2	2035.5	2202.4	2400.8	2590.2	2758.0
23.5°	1871.5	2006.3	2172.2	2370.2	2560.0	2730.3
24°	1843.3	1976.7	2142.6	2339.6	2528.0	2701.6
24.5°	1814.6	1947.0	2111.5	2307.1	2496.0	2671.0
25°	1786.4	1917.4	2080.4	2274.6	2462.0	2639.4
25.5°	1757.7	1887.7	2048.4	2241.6	2428.5	2607.4
26°	1729.0	1857.6	2016.4	2207.6	2393.6	2574.4
26.5°	1700.8	1827.0	1985.3	2173.7	2359.2	2539.9
27°	1672.1	1796.4	1952.3	2138.8	2323.8	2506.0
27.5°	1643.4	1765.8	1919.8	2103.9	2287.0	2471.1
28°	1614.7	1735.2	1885.8	2068.0	2250.2	2434.3
28.5°	1586.5	1704.1	1853.3	2032.6	2214.3	2397.9
29°	1557.8	1674.5	1820.8	1997.2	2178.0	2361.1
29.5°	1529.1	1643.9	1787.3	1960.9	2140.7	2323.3
30°	1500.9	1613.3	1753.9	1927.0	2103.4	2286.0
30.5°	1472.7	1582.7	1720.4	1891.1	2066.1	2247.8
31°	1444.5	1553.0	1687.4	1855.2	2029.8	2209.1
31.5°	1416.8	1522.4	1654.9	1820.3	1992.9	2171.3
32°	1388.1	1492.3	1621.9	1785.4	1955.2	2132.1
32.5°	1361.3	1462.7	1589.4	1750.0	1918.4	2092.9
33°	1333.6	1432.5	1556.9	1717.0	1881.5	2054.1
33.5°	1305.8	1402.9	1525.3	1682.6	1844.7	2014.9
34°	1279.1	1373.7	1493.3	1648.7	1809.8	1976.7
34.5°	1252.3	1344.6	1462.2	1615.2	1773.0	1938.4
35°	1225.5	1315.9	1431.1	1582.2	1737.6	1900.2
35.5°	1199.2	1286.7	1400.0	1549.2	1702.2	1861.9
36°	1173.4	1259.5	1370.9	1518.1	1667.8	1823.2
36.5°	1147.6	1231.2	1340.7	1484.7	1633.8	1786.4
37°	1121.7	1204.0	1312.5	1454.1	1598.9	1748.6
37.5°	1097.4	1176.3	1282.9	1423.0	1565.5	1712.3
38°	1072.5	1150.0	1254.7	1392.9	1532.0	1675.4
38.5°	1048.6	1123.7	1226.5	1361.8	1499.0	1640.1
39°	1025.2	1097.8	1199.2	1333.1	1467.9	1604.7
39.5°	1000.8	1072.0	1172.4	1303.9	1435.9	1570.3
40°	977.3	1047.6	1145.2	1275.2	1404.3	1535.3
40.5°	954.9	1022.8	1119.4	1246.1	1373.7	1502.4
41°	932.4	999.3	1093.5	1218.8	1343.6	1469.4
41.5°	909.9	975.4	1068.7	1191.1	1314.0	1436.4
42°	888.9	952.5	1043.8	1164.8	1284.8	1404.8
42.5°	867.4	929.5	1018.9	1138.5	1256.1	1374.2
43°	846.8	908.0	995.0	1112.7	1227.9	1343.6
43.5°	826.2	885.5	971.1	1086.8	1200.6	1314.0



TEST NUMBER: P776583

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRH-HCD42TRLWW-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	767.9	822.9	902.8	1013.2	1121.3	1227.9
45.5°	749.3	802.3	881.2	989.3	1095.9	1200.2
46°	730.6	782.7	859.2	965.9	1071.1	1173.4
46.5°	712.4	763.1	838.7	942.9	1046.2	1147.1
47°	694.3	744.0	817.2	920.0	1022.3	1121.3
47.5°	677.1	725.4	797.1	898.0	998.4	1096.4
48°	659.9	707.2	777.0	876.0	975.4	1071.1
48.5°	643.1	689.0	756.9	854.5	952.5	1046.2
49°	625.9	671.3	737.8	833.9	930.5	1022.8
49.5°	609.6	653.6	718.7	813.3	908.5	999.3
50°	593.9	636.4	699.5	792.3	886.5	976.4
50.5°	578.1	619.7	681.4	772.2	865.5	953.9
51°	562.8	603.0	663.2	753.1	844.4	931.4
51.5°	547.5	586.2	645.5	733.5	824.3	909.4
52°	532.2	570.9	627.8	714.8	803.3	887.9
52.5°	517.4	555.1	611.1	696.2	783.7	866.9
53°	503.0	539.8	593.9	677.5	764.1	846.3
53.5°	488.7	524.5	577.6	659.9	744.5	825.3
54°	474.8	509.2	561.4	641.7	725.4	805.2
54.5°	461.4	494.9	545.6	624.0	707.2	785.1
55°	448.0	480.5	529.8	606.8	688.1	765.5
55.5°	434.6	466.7	514.5	590.0	670.4	745.9
56°	422.2	452.8	498.7	573.3	652.2	726.8
56.5°	410.3	439.4	484.4	557.0	634.5	708.1
57°	398.3	425.6	469.5	540.8	616.8	690.0
57.5°	386.3	413.1	455.2	525.0	599.6	670.8
58°	374.4	399.7	441.3	509.2	582.4	653.2
58.5°	362.4	387.3	427.9	494.4	566.1	635.5
59°	351.4	374.9	414.1	479.1	549.4	617.8
59.5°	340.4	362.9	401.2	464.3	533.6	600.6
60°	330.4	351.0	387.8	449.9	517.4	583.8
60.5°	319.9	339.5	375.4	435.6	502.1	567.1
61°	309.8	328.5	362.4	421.7	485.8	550.4
61.5°	299.8	317.0	350.5	407.9	471.5	534.1
62°	290.2	306.0	338.5	394.0	456.6	518.3
62.5°	280.7	295.5	326.6	381.1	441.8	503.0
63°	271.6	285.5	315.1	367.7	427.0	487.2
63.5°	262.5	275.4	304.1	355.3	413.1	471.9
64°	253.9	265.4	292.6	342.4	399.3	457.1
64.5°	245.8	255.8	282.1	329.9	385.4	442.3
65°	237.6	246.7	271.6	318.0	372.0	427.5
65.5°	230.0	237.2	261.5	306.0	359.1	412.6
66°	222.3	228.1	251.0	294.1	346.2	397.3

TEST NUMBER: P776583

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRH-HCD42TRLWW-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	200.3	202.7	221.9	260.6	307.0	353.4
68°	193.7	194.6	212.8	250.1	294.5	339.0
68.5°	186.5	187.0	204.2	239.6	282.1	324.2
69°	179.8	179.3	195.6	229.0	269.7	310.3
69.5°	173.1	171.2	186.5	219.5	257.7	296.5
70°	166.4	164.5	178.4	209.9	246.2	282.6
70.5°	160.2	158.3	170.7	200.3	234.8	269.7
71°	154.0	151.6	163.5	190.8	223.3	256.3
71.5°	147.3	144.9	155.9	181.7	212.3	243.4
72°	141.5	138.7	148.2	173.1	201.3	230.5
72.5°	135.8	132.4	140.6	164.5	190.8	218.5
73°	129.1	126.2	133.9	156.4	180.7	206.6
73.5°	123.4	120.5	126.7	147.7	169.7	194.1
74°	117.6	114.8	120.0	139.6	160.7	182.7
74.5°	112.4	109.0	113.8	131.5	151.6	170.7
75°	106.6	103.3	107.6	123.8	142.5	160.2
75.5°	101.4	98.0	101.4	116.2	133.4	149.7
76°	96.1	92.8	95.6	108.5	124.8	139.1
76.5°	90.8	87.5	89.4	101.8	116.2	128.6
77°	85.6	82.7	84.2	94.7	108.1	118.6
77.5°	80.8	77.9	78.4	88.0	99.9	108.5
78°	75.5	73.2	73.2	81.8	92.3	99.0
78.5°	70.8	68.4	68.4	75.1	84.6	89.9
79°	66.0	64.1	63.6	69.3	77.5	80.8
79.5°	61.2	59.3	58.3	63.1	70.3	72.7
80°	56.4	55.0	54.0	57.9	63.6	64.6
80.5°	52.1	51.2	49.2	52.6	56.9	57.4
81°	47.8	46.9	45.4	47.3	50.7	50.2
81.5°	43.5	42.6	41.1	42.1	44.5	43.5
82°	39.2	38.7	36.8	37.8	38.7	36.8
82.5°	34.9	34.9	33.0	33.5	33.0	30.6
83°	31.1	31.1	29.2	29.2	27.7	25.3
83.5°	26.8	26.8	25.3	25.3	23.4	20.6
84°	23.0	23.4	22.0	21.5	19.1	16.7
84.5°	19.1	19.6	18.6	18.2	16.3	14.3
85°	15.3	16.3	15.8	15.3	12.9	12.4
85.5°	11.5	13.4	12.4	12.4	10.0	10.0
86°	8.1	10.0	9.6	9.6	7.2	8.1
86.5°	4.8	6.7	6.2	6.7	5.3	6.7
87°	2.4	3.3	3.8	4.8	3.8	5.7
87.5°	0.5	1.0	1.4	2.4	2.4	4.3
88°	0.0	0.0	0.0	0.5	1.4	3.3
88.5°	0.0	0.0	0.0	0.0	0.5	2.4



TEST NUMBER: P776583

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRH-HCD42TRLWW-5000lm-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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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°	2831.1	2868.4	2794.8	2638.0	2426.1	2243.0	2091.9	1981.9	1890.1	1873.4	1907.4
22°	2808.2	2849.3	2776.2	2617.4	2403.7	2219.6	2067.5	1957.1	1864.8	1848.5	1881.1



44°	1284.3	1319.2	1296.3	1217.9	1094.0	998.4	925.2	874.1	809.5	796.6	792.3
44.5°	1255.6	1289.6	1267.1	1190.1	1067.2	974.0	902.8	852.5	789.4	778.4	773.2



66.5°	382.5	394.5	373.0	333.8	290.7	268.7	268.7	269.7	252.0	243.4	230.5
67°	367.7	379.7	360.0	321.8	280.2	259.6	260.1	260.6	242.9	235.3	222.8



89°	1.4	2.9	7.7	11.0	10.0	10.0	7.7	3.3	0.0	0.5	0.0
89.5°	0.5	1.9	4.8	8.1	7.2	6.7	4.3	1.4	0.0	0.5	0.0

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21.5°	1983.4	2120.1	2287.5	2485.4	2673.4	2831.1
22°	1956.1	2092.9	2259.8	2458.2	2646.6	2808.2



44°	806.6	864.0	948.2	1061.5	1173.4	1284.3
44.5°	787.0	843.0	925.7	1037.1	1147.1	1255.6



66.5°	214.7	219.5	241.0	282.6	332.8	382.5
67°	207.5	210.9	231.4	271.6	319.9	367.7

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89°	0.0	0.0	0.0	0.0	0.5	1.4
89.5°	0.0	0.0	0.0	0.0	0.0	0.5

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(END OF REPORT)