

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: P776538

Luminaire Tested: HCDJBS4050CSD-HCD42TRMW-4000lm-4000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776538
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156A001)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD42TRMW-4000lm-4000K
Description: 4 INCH ROUND NARROW MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3824.2 lumens
Efficiency: N/A
Efficacy: 100.6 lumens/watt
Spacing Criteria (0/90/45): 0.96 / 0.97 / 0.95
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

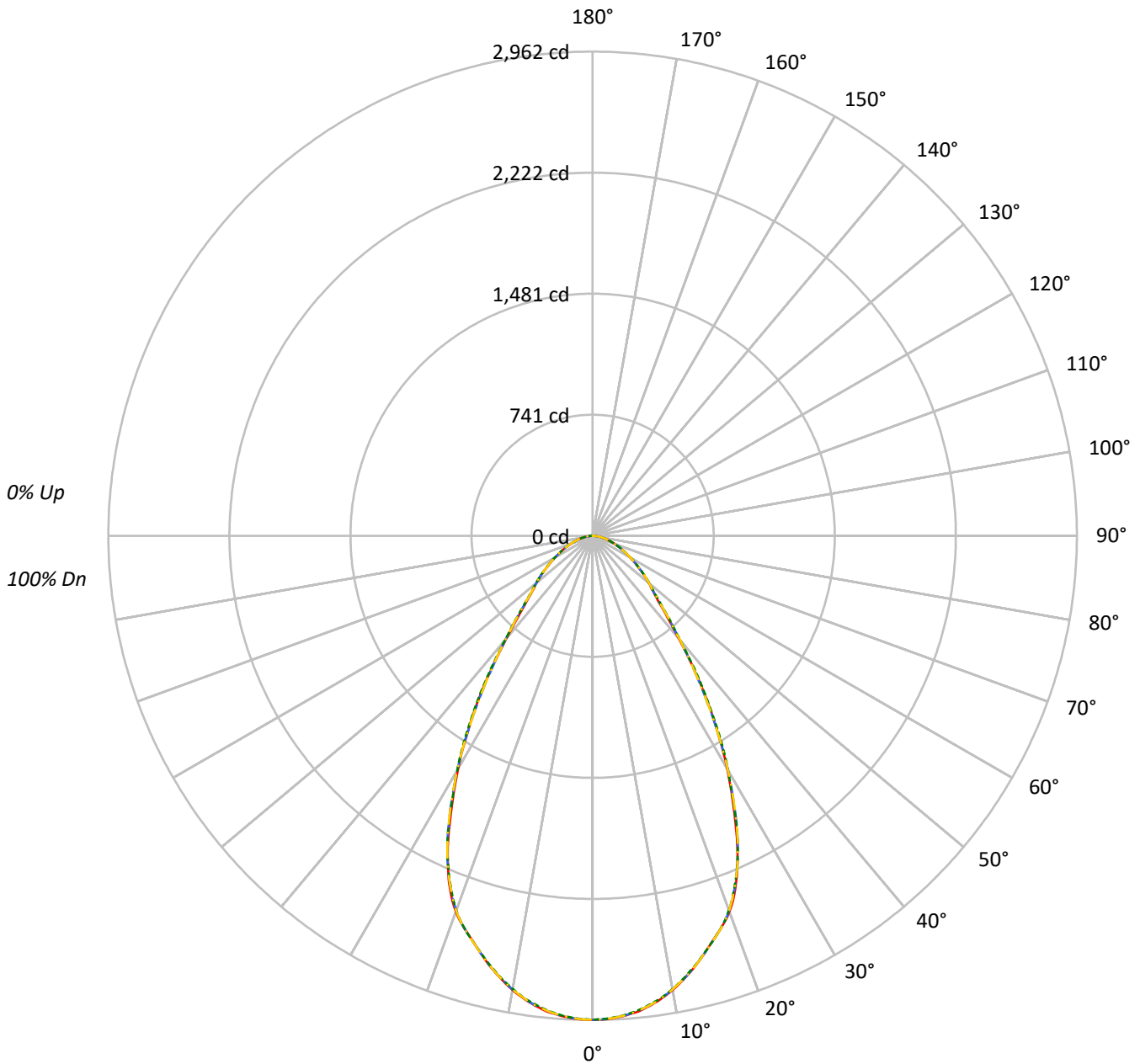
Input Watts (W): 38
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-4000K

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	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	91	89								
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80								
3	97	89	83	78	95	88	82	77	85	80	76	82	78	74	80	76	73	71								
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64								
5	85	75	68	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58								
6	80	69	62	57	78	68	61	56	67	60	56	65	60	55	64	59	55	53								
7	75	64	57	52	74	63	56	52	62	56	51	61	55	51	59	54	51	49								
8	71	60	52	48	70	59	52	47	58	52	47	57	51	47	56	51	47	45								
9	67	56	49	44	66	55	48	44	54	48	44	53	48	44	52	47	43	42								
10	63	52	45	41	62	52	45	41	51	45	41	50	44	41	49	44	40	39								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	372717	372717	372717	372717
5°	370085	369277	370085	369277
10°	360525	359720	360525	359720
15°	344576	344159	344576	344159
20°	327638	326473	327638	326473
25°	290800	291731	290800	291731
30°	239253	240517	239253	240517
35°	185606	187618	185606	187618
40°	134812	137162	134812	137162
45°	102071	104616	102071	104616
50°	87909	88613	87909	88613
55°	76399	77277	76399	77277
60°	66776	67380	66776	67380
65°	58694	59170	58694	59170
70°	51809	52103	51809	52103
75°	45513	45513	45513	45513
80°	39353	39063	39353	39063
85°	31478	31478	31478	31478

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 104616 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	275.9	7.2
10°-20°	742.9	19.4
20°-30°	951.4	24.9
30°-40°	753.9	19.7
40°-50°	461.6	12.1
50°-60°	315.6	8.3
60°-70°	197.5	5.2
70°-80°	100.1	2.6
80°-90°	25.3	0.7
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°	1970.2	51.5
0°-40°	2724.1	71.2
0°-60°	3501.3	91.6
0°-90°	3824.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3824.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2962	2962	2962	2962	2962	
5°	2930	2923	2930	2923	2930	276
15°	2645	2642	2645	2642	2645	743
25°	2094	2101	2094	2101	2094	949
35°	1208	1221	1208	1221	1208	753
45°	574	588	574	588	574	456
55°	348	352	348	352	348	314
65°	197	199	197	199	197	197
75°	94	94	94	94	94	100
85°	22	22	22	22	22	25
90°	0	1	0	1	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°	2961.6	2961.6	2961.6	2961.6	2961.6	2961.6	2961.6	2961.6	2961.6	2961.6	2961.6
0.5°	2962.0	2961.6	2960.8	2960.4	2959.2	2960.4	2960.8	2961.6	2962.0	2961.6	2960.8
1°	2960.8	2960.4	2960.0	2959.6	2958.0	2959.6	2960.0	2960.4	2960.8	2960.4	2960.0
1.5°	2959.2	2958.4	2958.4	2957.6	2956.5	2957.6	2958.4	2958.4	2959.2	2958.4	2958.4
2°	2956.8	2956.5	2955.7	2955.3	2953.7	2955.3	2955.7	2956.5	2956.8	2956.5	2955.7
2.5°	2954.1	2953.3	2952.5	2952.1	2950.1	2952.1	2952.5	2953.3	2954.1	2953.3	2952.5
3°	2950.1	2949.3	2948.5	2947.7	2945.7	2947.7	2948.5	2949.3	2950.1	2949.3	2948.5
3.5°	2945.7	2945.0	2943.8	2943.0	2941.8	2943.0	2943.8	2945.0	2945.7	2945.0	2943.8
4°	2940.6	2940.2	2938.6	2937.8	2935.8	2937.8	2938.6	2940.2	2940.6	2940.2	2938.6
4.5°	2935.0	2934.2	2932.7	2931.9	2929.5	2931.9	2932.7	2934.2	2935.0	2934.2	2932.7
5°	2929.5	2928.3	2926.7	2925.9	2923.1	2925.9	2926.7	2928.3	2929.5	2928.3	2926.7
5.5°	2923.5	2920.8	2918.8	2918.0	2915.6	2918.0	2918.8	2920.8	2923.5	2920.8	2918.8
6°	2914.4	2912.8	2910.8	2909.7	2906.5	2909.7	2910.8	2912.8	2914.4	2912.8	2910.8
6.5°	2905.3	2904.1	2901.7	2900.5	2897.4	2900.5	2901.7	2904.1	2905.3	2904.1	2901.7
7°	2895.8	2894.2	2893.0	2891.0	2888.2	2891.0	2893.0	2894.2	2895.8	2894.2	2893.0
7.5°	2885.1	2883.5	2881.9	2881.1	2878.3	2881.1	2881.9	2883.5	2885.1	2883.5	2881.9
8°	2873.6	2872.4	2870.8	2869.6	2868.0	2869.6	2870.8	2872.4	2873.6	2872.4	2870.8
8.5°	2861.7	2860.1	2858.5	2857.3	2855.7	2857.3	2858.5	2860.1	2861.7	2860.1	2858.5
9°	2849.0	2847.8	2845.8	2844.6	2843.0	2844.6	2845.8	2847.8	2849.0	2847.8	2845.8
9.5°	2835.1	2834.3	2832.3	2831.1	2829.5	2831.1	2832.3	2834.3	2835.1	2834.3	2832.3
10°	2821.2	2820.0	2818.4	2816.8	2814.9	2816.8	2818.4	2820.0	2821.2	2820.0	2818.4
10.5°	2805.7	2804.9	2803.0	2801.8	2800.2	2801.8	2803.0	2804.9	2805.7	2804.9	2803.0
11°	2790.3	2789.5	2787.9	2786.3	2784.3	2786.3	2787.9	2789.5	2790.3	2789.5	2787.9
11.5°	2774.0	2773.2	2771.6	2770.0	2768.5	2770.0	2771.6	2773.2	2774.0	2773.2	2771.6
12°	2757.3	2756.6	2755.4	2753.4	2751.8	2753.4	2755.4	2756.6	2757.3	2756.6	2755.4
12.5°	2739.9	2739.1	2737.9	2735.9	2733.9	2735.9	2737.9	2739.1	2739.9	2739.1	2737.9
13°	2722.0	2721.3	2720.1	2718.5	2716.5	2718.5	2720.1	2721.3	2722.0	2721.3	2720.1
13.5°	2703.4	2702.6	2701.8	2700.2	2698.6	2700.2	2701.8	2702.6	2703.4	2702.6	2701.8
14°	2684.4	2684.0	2683.2	2681.6	2680.0	2681.6	2683.2	2684.0	2684.4	2684.0	2683.2
14.5°	2664.5	2664.1	2663.7	2662.2	2660.6	2662.2	2663.7	2664.1	2664.5	2664.1	2663.7
15°	2644.7	2644.7	2643.9	2643.1	2641.5	2643.1	2643.9	2644.7	2644.7	2644.7	2643.9
15.5°	2624.1	2624.1	2624.9	2624.1	2623.3	2624.1	2624.9	2624.1	2624.1	2624.1	2624.9
16°	2604.2	2604.6	2605.8	2605.4	2604.6	2605.4	2605.8	2604.6	2604.2	2604.6	2605.8
16.5°	2584.4	2585.2	2586.8	2586.8	2586.4	2586.8	2586.8	2585.2	2584.4	2585.2	2586.8
17°	2565.8	2566.6	2568.2	2567.8	2568.2	2567.8	2568.2	2566.6	2565.8	2566.6	2568.2
17.5°	2547.5	2548.3	2549.5	2549.1	2548.7	2549.1	2549.5	2548.3	2547.5	2548.3	2549.5
18°	2529.7	2530.1	2530.9	2530.1	2529.3	2530.1	2530.9	2530.1	2529.7	2530.1	2530.9
18.5°	2510.6	2510.6	2510.6	2509.9	2508.7	2509.9	2510.6	2510.6	2510.6	2510.6	2510.6
19°	2491.2	2490.0	2489.2	2488.0	2486.8	2488.0	2489.2	2490.0	2491.2	2490.0	2489.2
19.5°	2469.8	2468.2	2465.8	2465.0	2463.8	2465.0	2465.8	2468.2	2469.8	2468.2	2465.8
20°	2446.4	2444.4	2440.0	2440.4	2437.7	2440.4	2440.0	2444.4	2446.4	2444.4	2440.0
20.5°	2420.6	2417.4	2412.3	2413.9	2410.7	2413.9	2412.3	2417.4	2420.6	2417.4	2412.3
21°	2393.6	2388.9	2382.9	2384.9	2380.9	2384.9	2382.9	2388.9	2393.6	2388.9	2382.9



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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°	2294.9	2290.1	2286.2	2285.8	2283.8	2285.8	2286.2	2290.1	2294.9	2290.1	2286.2
23°	2257.2	2253.2	2252.4	2249.7	2248.9	2249.7	2252.4	2253.2	2257.2	2253.2	2252.4
23.5°	2218.7	2215.2	2217.1	2212.4	2214.4	2212.4	2217.1	2215.2	2218.7	2215.2	2217.1
24°	2178.7	2175.9	2180.7	2174.3	2177.9	2174.3	2180.7	2175.9	2178.7	2175.9	2180.7
24.5°	2137.4	2136.2	2142.2	2135.8	2140.6	2135.8	2142.2	2136.2	2137.4	2136.2	2142.2
25°	2094.2	2095.0	2102.1	2097.4	2100.9	2097.4	2102.1	2095.0	2094.2	2095.0	2102.1
25.5°	2049.4	2054.5	2060.9	2058.9	2059.7	2058.9	2060.9	2054.5	2049.4	2054.5	2060.9
26°	2003.4	2012.5	2018.4	2018.8	2015.7	2018.8	2018.4	2012.5	2003.4	2012.5	2018.4
26.5°	1956.2	1969.6	1974.4	1977.2	1970.0	1977.2	1974.4	1969.6	1956.2	1969.6	1974.4
27°	1910.2	1925.2	1930.0	1934.3	1923.6	1934.3	1930.0	1925.2	1910.2	1925.2	1930.0
27.5°	1864.9	1879.2	1884.8	1890.3	1876.4	1890.3	1884.8	1879.2	1864.9	1879.2	1884.8
28°	1819.7	1833.2	1838.8	1844.3	1829.2	1844.3	1838.8	1833.2	1819.7	1833.2	1838.8
28.5°	1775.7	1786.4	1792.8	1797.5	1783.6	1797.5	1792.8	1786.4	1775.7	1786.4	1792.8
29°	1732.1	1739.2	1746.7	1749.9	1740.4	1749.9	1746.7	1739.2	1732.1	1739.2	1746.7
29.5°	1689.2	1692.8	1701.1	1702.3	1698.0	1702.3	1701.1	1692.8	1689.2	1692.8	1701.1
30°	1646.4	1645.2	1654.3	1654.7	1655.1	1654.7	1654.3	1645.2	1646.4	1645.2	1654.3
30.5°	1602.0	1599.2	1607.9	1608.7	1614.7	1608.7	1607.9	1599.2	1602.0	1599.2	1607.9
31°	1557.9	1552.0	1561.1	1562.7	1571.8	1562.7	1561.1	1552.0	1557.9	1552.0	1561.1
31.5°	1512.7	1506.8	1514.3	1517.1	1528.6	1517.1	1514.3	1506.8	1512.7	1506.8	1514.3
32°	1466.7	1461.2	1467.9	1472.3	1484.2	1472.3	1467.9	1461.2	1466.7	1461.2	1467.9
32.5°	1422.3	1417.5	1422.3	1427.9	1439.8	1427.9	1422.3	1417.5	1422.3	1417.5	1422.3
33°	1377.5	1373.9	1375.5	1383.4	1394.5	1383.4	1375.5	1373.9	1377.5	1373.9	1375.5
33.5°	1337.4	1330.3	1329.1	1339.0	1348.9	1339.0	1329.1	1330.3	1337.4	1330.3	1329.1
34°	1294.2	1286.7	1283.1	1295.4	1305.7	1295.4	1283.1	1286.7	1294.2	1286.7	1283.1
34.5°	1251.4	1243.4	1238.3	1251.4	1262.9	1251.4	1238.3	1243.4	1251.4	1243.4	1238.3
35°	1208.1	1201.4	1195.8	1208.9	1221.2	1208.9	1195.8	1201.4	1208.1	1201.4	1195.8
35.5°	1166.1	1159.7	1153.8	1166.9	1180.4	1166.9	1153.8	1159.7	1166.1	1159.7	1153.8
36°	1124.8	1118.1	1112.9	1126.4	1140.3	1126.4	1112.9	1118.1	1124.8	1118.1	1112.9
36.5°	1084.0	1078.0	1073.3	1086.4	1099.4	1086.4	1073.3	1078.0	1084.0	1078.0	1073.3
37°	1042.7	1038.4	1034.4	1047.5	1059.0	1047.5	1034.4	1038.4	1042.7	1038.4	1034.4
37.5°	1002.7	999.9	997.1	1010.2	1018.5	1010.2	997.1	999.9	1002.7	999.9	997.1
38°	963.0	962.6	961.4	973.7	978.5	973.7	961.4	962.6	963.0	962.6	961.4
38.5°	925.7	926.5	927.3	938.0	940.0	938.0	927.3	926.5	925.7	926.5	927.3
39°	889.6	891.6	893.2	903.5	903.1	903.5	893.2	891.6	889.6	891.6	893.2
39.5°	854.3	857.9	860.7	869.4	868.2	869.4	860.7	857.9	854.3	857.9	860.7
40°	820.6	824.6	829.3	836.5	834.9	836.5	829.3	824.6	820.6	824.6	829.3
40.5°	788.9	792.9	799.2	804.4	804.0	804.4	799.2	792.9	788.9	792.9	799.2
41°	758.3	762.3	770.6	774.2	775.4	774.2	770.6	762.3	758.3	762.3	770.6
41.5°	729.4	733.8	743.3	745.3	748.8	745.3	743.3	733.8	729.4	733.8	743.3
42°	702.4	706.8	717.1	718.3	723.0	718.3	717.1	706.8	702.4	706.8	717.1
42.5°	677.0	681.4	692.5	692.9	698.1	692.9	692.5	681.4	677.0	681.4	692.5
43°	652.8	657.6	668.3	669.1	673.9	669.1	668.3	657.6	652.8	657.6	668.3
43.5°	630.6	635.4	645.7	646.1	650.5	646.1	645.7	635.4	630.6	635.4	645.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	573.5	577.5	583.8	585.8	587.8	585.8	583.8	577.5	573.5	577.5	583.8
45.5°	556.9	560.0	566.0	568.0	569.6	568.0	566.0	560.0	556.9	560.0	566.0
46°	541.0	543.8	548.9	551.7	552.5	551.7	548.9	543.8	541.0	543.8	548.9
46.5°	526.3	528.7	532.7	535.8	536.6	535.8	532.7	528.7	526.3	528.7	532.7
47°	512.4	514.0	518.0	521.2	522.4	521.2	518.0	514.0	512.4	514.0	518.0
47.5°	499.4	500.5	504.1	507.7	509.3	507.7	504.1	500.5	499.4	500.5	504.1
48°	487.1	488.6	492.2	495.4	497.0	495.4	492.2	488.6	487.1	488.6	492.2
48.5°	477.1	477.9	480.7	483.9	485.1	483.9	480.7	477.9	477.1	477.9	480.7
49°	467.6	468.0	470.4	472.8	474.0	472.8	470.4	468.0	467.6	468.0	470.4
49.5°	458.5	458.9	460.5	462.5	462.9	462.5	460.5	458.9	458.5	458.9	460.5
50°	449.0	449.4	450.6	452.2	452.6	452.2	450.6	449.4	449.0	449.4	450.6
50.5°	439.5	439.9	440.7	442.2	442.2	442.2	440.7	439.9	439.5	439.9	440.7
51°	428.8	429.5	430.7	432.3	432.3	432.3	430.7	429.5	428.8	429.5	430.7
51.5°	418.4	418.8	420.4	422.4	422.8	422.4	420.4	418.8	418.4	418.8	420.4
52°	407.7	408.5	410.1	412.1	412.5	412.1	410.1	408.5	407.7	408.5	410.1
52.5°	397.0	397.8	399.8	401.4	402.2	401.4	399.8	397.8	397.0	397.8	399.8
53°	387.1	387.9	389.5	391.1	391.9	391.1	389.5	387.9	387.1	387.9	389.5
53.5°	376.8	377.6	379.2	381.2	382.0	381.2	379.2	377.6	376.8	377.6	379.2
54°	367.3	367.7	369.3	370.8	371.6	370.8	369.3	367.7	367.3	367.7	369.3
54.5°	357.8	358.2	359.7	361.3	362.1	361.3	359.7	358.2	357.8	358.2	359.7
55°	348.2	349.0	350.6	351.8	352.2	351.8	350.6	349.0	348.2	349.0	350.6
55.5°	339.1	339.9	341.5	342.7	343.1	342.7	341.5	339.9	339.1	339.9	341.5
56°	330.4	331.2	332.4	333.6	334.0	333.6	332.4	331.2	330.4	331.2	332.4
56.5°	321.7	322.5	323.6	324.8	325.2	324.8	323.6	322.5	321.7	322.5	323.6
57°	312.9	313.7	314.9	316.1	316.5	316.1	314.9	313.7	312.9	313.7	314.9
57.5°	304.2	305.4	306.6	307.4	308.2	307.4	306.6	305.4	304.2	305.4	306.6
58°	296.7	297.1	298.3	299.5	299.8	299.5	298.3	297.1	296.7	297.1	298.3
58.5°	288.7	289.1	290.3	291.1	291.5	291.1	290.3	289.1	288.7	289.1	290.3
59°	280.8	281.2	282.0	282.8	283.6	282.8	282.0	281.2	280.8	281.2	282.0
59.5°	272.9	273.3	274.1	275.3	275.7	275.3	274.1	273.3	272.9	273.3	274.1
60°	265.3	265.7	266.5	267.3	267.7	267.3	266.5	265.7	265.3	265.7	266.5
60.5°	257.8	258.2	259.0	259.8	260.2	259.8	259.0	258.2	257.8	258.2	259.0
61°	250.7	251.1	251.9	252.7	253.0	252.7	251.9	251.1	250.7	251.1	251.9
61.5°	243.5	243.9	244.7	245.5	245.9	245.5	244.7	243.9	243.5	243.9	244.7
62°	236.8	236.8	237.6	238.4	238.4	238.4	237.6	236.8	236.8	236.8	237.6
62.5°	229.6	230.0	230.4	231.2	231.6	231.2	230.4	230.0	229.6	230.0	230.4
63°	222.9	223.3	223.7	224.5	224.5	224.5	223.7	223.3	222.9	223.3	223.7
63.5°	216.2	216.6	217.0	217.7	218.1	217.7	217.0	216.6	216.2	216.6	217.0
64°	209.8	210.2	210.6	211.0	211.4	211.0	210.6	210.2	209.8	210.2	210.6
64.5°	203.5	203.9	204.3	204.7	205.1	204.7	204.3	203.9	203.5	203.9	204.3
65°	197.1	197.5	197.9	198.3	198.7	198.3	197.9	197.5	197.1	197.5	197.9
65.5°	191.2	191.2	191.6	192.4	192.4	192.4	191.6	191.2	191.2	191.2	191.6
66°	184.8	185.2	185.6	186.0	186.4	186.0	185.6	185.2	184.8	185.2	185.6



TEST NUMBER: P776538

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	167.4	167.8	168.2	168.6	168.6	168.6	168.2	167.8	167.4	167.8	168.2
68°	161.8	162.2	162.6	163.0	163.0	163.0	162.6	162.2	161.8	162.2	162.6
68.5°	156.3	156.7	157.1	157.1	157.5	157.1	157.1	156.7	156.3	156.7	157.1
69°	151.1	151.1	151.1	151.9	151.9	151.9	151.1	151.1	151.1	151.1	151.1
69.5°	145.6	146.0	146.0	146.4	146.8	146.4	146.0	146.0	145.6	146.0	146.0
70°	140.8	141.2	140.8	141.2	141.6	141.2	140.8	141.2	140.8	141.2	140.8
70.5°	135.6	136.0	136.0	136.0	136.4	136.0	136.0	136.0	135.6	136.0	136.0
71°	130.9	130.9	130.9	130.9	131.3	130.9	130.9	130.9	130.9	130.9	130.9
71.5°	125.7	125.7	126.1	126.1	126.1	126.1	126.1	125.7	125.7	125.7	126.1
72°	121.0	121.0	121.0	121.4	121.4	121.4	121.0	121.0	121.0	121.0	121.0
72.5°	116.2	116.2	116.2	116.6	116.6	116.6	116.2	116.2	116.2	116.2	116.2
73°	111.5	111.5	111.5	111.8	111.8	111.8	111.5	111.5	111.5	111.5	111.5
73.5°	106.7	106.7	107.1	107.1	107.1	107.1	107.1	106.7	106.7	106.7	107.1
74°	102.3	102.3	102.3	102.7	102.7	102.7	102.3	102.3	102.3	102.3	102.3
74.5°	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0
75°	93.6	93.6	93.6	93.6	93.6	93.6	93.6	93.6	93.6	93.6	93.6
75.5°	89.2	89.2	89.2	89.2	89.6	89.2	89.2	89.2	89.2	89.2	89.2
76°	85.3	84.9	84.9	85.3	85.3	85.3	84.9	84.9	85.3	84.9	84.9
76.5°	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9
77°	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9
77.5°	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0
78°	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0
78.5°	65.4	65.4	65.0	65.0	65.4	65.0	65.0	65.4	65.4	65.4	65.0
79°	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5
79.5°	57.9	57.9	57.5	57.9	57.9	57.9	57.5	57.9	57.9	57.9	57.5
80°	54.3	54.3	53.9	53.9	53.9	53.9	53.9	54.3	54.3	54.3	53.9
80.5°	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8
81°	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2
81.5°	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6
82°	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5
82.5°	37.3	37.3	37.3	37.3	36.9	37.3	37.3	37.3	37.3	37.3	37.3
83°	34.1	34.1	34.1	33.7	33.7	33.7	34.1	34.1	34.1	34.1	34.1
83.5°	30.9	30.9	30.9	30.5	30.5	30.5	30.9	30.9	30.9	30.9	30.9
84°	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8
84.5°	25.0	24.6	24.6	24.6	24.6	24.6	24.6	24.6	25.0	24.6	24.6
85°	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8
85.5°	19.0	18.6	19.0	18.6	19.0	18.6	19.0	18.6	19.0	18.6	19.0
86°	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9
86.5°	13.5	13.1	13.1	13.1	13.5	13.1	13.1	13.1	13.5	13.1	13.1
87°	10.7	10.7	10.7	10.3	10.7	10.3	10.7	10.7	10.7	10.7	10.7
87.5°	7.9	7.9	7.9	7.9	8.3	7.9	7.9	7.9	7.9	7.9	7.9
88°	5.2	5.6	5.6	5.9	5.9	5.9	5.6	5.6	5.2	5.6	5.6
88.5°	3.2	3.2	3.6	4.0	4.8	4.0	3.6	3.2	3.2	3.2	3.6



TEST NUMBER: P776538
CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-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	0.4	0.8	1.2	0.8	0.4	0.0	0.0	0.0	0.4



TEST NUMBER: P776538

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2961.6	2961.6	2961.6	2961.6	2961.6	2961.6
0.5°	2960.4	2959.2	2960.4	2960.8	2961.6	2962.0
1°	2959.6	2958.0	2959.6	2960.0	2960.4	2960.8
1.5°	2957.6	2956.5	2957.6	2958.4	2958.4	2959.2
2°	2955.3	2953.7	2955.3	2955.7	2956.5	2956.8
2.5°	2952.1	2950.1	2952.1	2952.5	2953.3	2954.1
3°	2947.7	2945.7	2947.7	2948.5	2949.3	2950.1
3.5°	2943.0	2941.8	2943.0	2943.8	2945.0	2945.7
4°	2937.8	2935.8	2937.8	2938.6	2940.2	2940.6
4.5°	2931.9	2929.5	2931.9	2932.7	2934.2	2935.0
5°	2925.9	2923.1	2925.9	2926.7	2928.3	2929.5
5.5°	2918.0	2915.6	2918.0	2918.8	2920.8	2923.5
6°	2909.7	2906.5	2909.7	2910.8	2912.8	2914.4
6.5°	2900.5	2897.4	2900.5	2901.7	2904.1	2905.3
7°	2891.0	2888.2	2891.0	2893.0	2894.2	2895.8
7.5°	2881.1	2878.3	2881.1	2881.9	2883.5	2885.1
8°	2869.6	2868.0	2869.6	2870.8	2872.4	2873.6
8.5°	2857.3	2855.7	2857.3	2858.5	2860.1	2861.7
9°	2844.6	2843.0	2844.6	2845.8	2847.8	2849.0
9.5°	2831.1	2829.5	2831.1	2832.3	2834.3	2835.1
10°	2816.8	2814.9	2816.8	2818.4	2820.0	2821.2
10.5°	2801.8	2800.2	2801.8	2803.0	2804.9	2805.7
11°	2786.3	2784.3	2786.3	2787.9	2789.5	2790.3
11.5°	2770.0	2768.5	2770.0	2771.6	2773.2	2774.0
12°	2753.4	2751.8	2753.4	2755.4	2756.6	2757.3
12.5°	2735.9	2733.9	2735.9	2737.9	2739.1	2739.9
13°	2718.5	2716.5	2718.5	2720.1	2721.3	2722.0
13.5°	2700.2	2698.6	2700.2	2701.8	2702.6	2703.4
14°	2681.6	2680.0	2681.6	2683.2	2684.0	2684.4
14.5°	2662.2	2660.6	2662.2	2663.7	2664.1	2664.5
15°	2643.1	2641.5	2643.1	2643.9	2644.7	2644.7
15.5°	2624.1	2623.3	2624.1	2624.9	2624.1	2624.1
16°	2605.4	2604.6	2605.4	2605.8	2604.6	2604.2
16.5°	2586.8	2586.4	2586.8	2586.8	2585.2	2584.4
17°	2567.8	2568.2	2567.8	2568.2	2566.6	2565.8
17.5°	2549.1	2548.7	2549.1	2549.5	2548.3	2547.5
18°	2530.1	2529.3	2530.1	2530.9	2530.1	2529.7
18.5°	2509.9	2508.7	2509.9	2510.6	2510.6	2510.6
19°	2488.0	2486.8	2488.0	2489.2	2490.0	2491.2
19.5°	2465.0	2463.8	2465.0	2465.8	2468.2	2469.8
20°	2440.4	2437.7	2440.4	2440.0	2444.4	2446.4
20.5°	2413.9	2410.7	2413.9	2412.3	2417.4	2420.6
21°	2384.9	2380.9	2384.9	2382.9	2388.9	2393.6

TEST NUMBER: P776538

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2285.8	2283.8	2285.8	2286.2	2290.1	2294.9
23°	2249.7	2248.9	2249.7	2252.4	2253.2	2257.2
23.5°	2212.4	2214.4	2212.4	2217.1	2215.2	2218.7
24°	2174.3	2177.9	2174.3	2180.7	2175.9	2178.7
24.5°	2135.8	2140.6	2135.8	2142.2	2136.2	2137.4
25°	2097.4	2100.9	2097.4	2102.1	2095.0	2094.2
25.5°	2058.9	2059.7	2058.9	2060.9	2054.5	2049.4
26°	2018.8	2015.7	2018.8	2018.4	2012.5	2003.4
26.5°	1977.2	1970.0	1977.2	1974.4	1969.6	1956.2
27°	1934.3	1923.6	1934.3	1930.0	1925.2	1910.2
27.5°	1890.3	1876.4	1890.3	1884.8	1879.2	1864.9
28°	1844.3	1829.2	1844.3	1838.8	1833.2	1819.7
28.5°	1797.5	1783.6	1797.5	1792.8	1786.4	1775.7
29°	1749.9	1740.4	1749.9	1746.7	1739.2	1732.1
29.5°	1702.3	1698.0	1702.3	1701.1	1692.8	1689.2
30°	1654.7	1655.1	1654.7	1654.3	1645.2	1646.4
30.5°	1608.7	1614.7	1608.7	1607.9	1599.2	1602.0
31°	1562.7	1571.8	1562.7	1561.1	1552.0	1557.9
31.5°	1517.1	1528.6	1517.1	1514.3	1506.8	1512.7
32°	1472.3	1484.2	1472.3	1467.9	1461.2	1466.7
32.5°	1427.9	1439.8	1427.9	1422.3	1417.5	1422.3
33°	1383.4	1394.5	1383.4	1375.5	1373.9	1377.5
33.5°	1339.0	1348.9	1339.0	1329.1	1330.3	1337.4
34°	1295.4	1305.7	1295.4	1283.1	1286.7	1294.2
34.5°	1251.4	1262.9	1251.4	1238.3	1243.4	1251.4
35°	1208.9	1221.2	1208.9	1195.8	1201.4	1208.1
35.5°	1166.9	1180.4	1166.9	1153.8	1159.7	1166.1
36°	1126.4	1140.3	1126.4	1112.9	1118.1	1124.8
36.5°	1086.4	1099.4	1086.4	1073.3	1078.0	1084.0
37°	1047.5	1059.0	1047.5	1034.4	1038.4	1042.7
37.5°	1010.2	1018.5	1010.2	997.1	999.9	1002.7
38°	973.7	978.5	973.7	961.4	962.6	963.0
38.5°	938.0	940.0	938.0	927.3	926.5	925.7
39°	903.5	903.1	903.5	893.2	891.6	889.6
39.5°	869.4	868.2	869.4	860.7	857.9	854.3
40°	836.5	834.9	836.5	829.3	824.6	820.6
40.5°	804.4	804.0	804.4	799.2	792.9	788.9
41°	774.2	775.4	774.2	770.6	762.3	758.3
41.5°	745.3	748.8	745.3	743.3	733.8	729.4
42°	718.3	723.0	718.3	717.1	706.8	702.4
42.5°	692.9	698.1	692.9	692.5	681.4	677.0
43°	669.1	673.9	669.1	668.3	657.6	652.8
43.5°	646.1	650.5	646.1	645.7	635.4	630.6



TEST NUMBER: P776538

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	585.8	587.8	585.8	583.8	577.5	573.5
45.5°	568.0	569.6	568.0	566.0	560.0	556.9
46°	551.7	552.5	551.7	548.9	543.8	541.0
46.5°	535.8	536.6	535.8	532.7	528.7	526.3
47°	521.2	522.4	521.2	518.0	514.0	512.4
47.5°	507.7	509.3	507.7	504.1	500.5	499.4
48°	495.4	497.0	495.4	492.2	488.6	487.1
48.5°	483.9	485.1	483.9	480.7	477.9	477.1
49°	472.8	474.0	472.8	470.4	468.0	467.6
49.5°	462.5	462.9	462.5	460.5	458.9	458.5
50°	452.2	452.6	452.2	450.6	449.4	449.0
50.5°	442.2	442.2	442.2	440.7	439.9	439.5
51°	432.3	432.3	432.3	430.7	429.5	428.8
51.5°	422.4	422.8	422.4	420.4	418.8	418.4
52°	412.1	412.5	412.1	410.1	408.5	407.7
52.5°	401.4	402.2	401.4	399.8	397.8	397.0
53°	391.1	391.9	391.1	389.5	387.9	387.1
53.5°	381.2	382.0	381.2	379.2	377.6	376.8
54°	370.8	371.6	370.8	369.3	367.7	367.3
54.5°	361.3	362.1	361.3	359.7	358.2	357.8
55°	351.8	352.2	351.8	350.6	349.0	348.2
55.5°	342.7	343.1	342.7	341.5	339.9	339.1
56°	333.6	334.0	333.6	332.4	331.2	330.4
56.5°	324.8	325.2	324.8	323.6	322.5	321.7
57°	316.1	316.5	316.1	314.9	313.7	312.9
57.5°	307.4	308.2	307.4	306.6	305.4	304.2
58°	299.5	299.8	299.5	298.3	297.1	296.7
58.5°	291.1	291.5	291.1	290.3	289.1	288.7
59°	282.8	283.6	282.8	282.0	281.2	280.8
59.5°	275.3	275.7	275.3	274.1	273.3	272.9
60°	267.3	267.7	267.3	266.5	265.7	265.3
60.5°	259.8	260.2	259.8	259.0	258.2	257.8
61°	252.7	253.0	252.7	251.9	251.1	250.7
61.5°	245.5	245.9	245.5	244.7	243.9	243.5
62°	238.4	238.4	238.4	237.6	236.8	236.8
62.5°	231.2	231.6	231.2	230.4	230.0	229.6
63°	224.5	224.5	224.5	223.7	223.3	222.9
63.5°	217.7	218.1	217.7	217.0	216.6	216.2
64°	211.0	211.4	211.0	210.6	210.2	209.8
64.5°	204.7	205.1	204.7	204.3	203.9	203.5
65°	198.3	198.7	198.3	197.9	197.5	197.1
65.5°	192.4	192.4	192.4	191.6	191.2	191.2
66°	186.0	186.4	186.0	185.6	185.2	184.8



TEST NUMBER: P776538

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	168.6	168.6	168.6	168.2	167.8	167.4
68°	163.0	163.0	163.0	162.6	162.2	161.8
68.5°	157.1	157.5	157.1	157.1	156.7	156.3
69°	151.9	151.9	151.9	151.1	151.1	151.1
69.5°	146.4	146.8	146.4	146.0	146.0	145.6
70°	141.2	141.6	141.2	140.8	141.2	140.8
70.5°	136.0	136.4	136.0	136.0	136.0	135.6
71°	130.9	131.3	130.9	130.9	130.9	130.9
71.5°	126.1	126.1	126.1	126.1	125.7	125.7
72°	121.4	121.4	121.4	121.0	121.0	121.0
72.5°	116.6	116.6	116.6	116.2	116.2	116.2
73°	111.8	111.8	111.8	111.5	111.5	111.5
73.5°	107.1	107.1	107.1	107.1	106.7	106.7
74°	102.7	102.7	102.7	102.3	102.3	102.3
74.5°	98.0	98.0	98.0	98.0	98.0	98.0
75°	93.6	93.6	93.6	93.6	93.6	93.6
75.5°	89.2	89.6	89.2	89.2	89.2	89.2
76°	85.3	85.3	85.3	84.9	84.9	85.3
76.5°	80.9	80.9	80.9	80.9	80.9	80.9
77°	76.9	76.9	76.9	76.9	76.9	76.9
77.5°	73.0	73.0	73.0	73.0	73.0	73.0
78°	69.0	69.0	69.0	69.0	69.0	69.0
78.5°	65.0	65.4	65.0	65.0	65.4	65.4
79°	61.5	61.5	61.5	61.5	61.5	61.5
79.5°	57.9	57.9	57.9	57.5	57.9	57.9
80°	53.9	53.9	53.9	53.9	54.3	54.3
80.5°	50.8	50.8	50.8	50.8	50.8	50.8
81°	47.2	47.2	47.2	47.2	47.2	47.2
81.5°	43.6	43.6	43.6	43.6	43.6	43.6
82°	40.5	40.5	40.5	40.5	40.5	40.5
82.5°	37.3	36.9	37.3	37.3	37.3	37.3
83°	33.7	33.7	33.7	34.1	34.1	34.1
83.5°	30.5	30.5	30.5	30.9	30.9	30.9
84°	27.8	27.8	27.8	27.8	27.8	27.8
84.5°	24.6	24.6	24.6	24.6	24.6	25.0
85°	21.8	21.8	21.8	21.8	21.8	21.8
85.5°	18.6	19.0	18.6	19.0	18.6	19.0
86°	15.9	15.9	15.9	15.9	15.9	15.9
86.5°	13.1	13.5	13.1	13.1	13.1	13.5
87°	10.3	10.7	10.3	10.7	10.7	10.7
87.5°	7.9	8.3	7.9	7.9	7.9	7.9
88°	5.9	5.9	5.9	5.6	5.6	5.2
88.5°	4.0	4.8	4.0	3.6	3.2	3.2



TEST NUMBER: P776538
CATALOG NUMBER: HCDJBS4050CSD-HCD42TRMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.8	1.2	0.8	0.4	0.0	0.0



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Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270° - · - · 135°-315°

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21.5°	2362.3	2358.3	2351.6	2353.6	2349.6	2353.6	2351.6	2358.3	2362.3	2358.3	2351.6
22°	2329.4	2325.4	2319.5	2320.3	2316.3	2320.3	2319.5	2325.4	2329.4	2325.4	2319.5



44°	610.0	614.8	623.9	624.7	628.7	624.7	623.9	614.8	610.0	614.8	623.9
44.5°	591.0	595.7	603.7	604.9	607.6	604.9	603.7	595.7	591.0	595.7	603.7



66.5°	178.9	179.3	179.7	180.1	180.5	180.1	179.7	179.3	178.9	179.3	179.7
67°	173.3	173.3	173.7	174.1	174.5	174.1	173.7	173.3	173.3	173.3	173.7



89°	1.2	1.6	2.4	2.8	3.2	2.8	2.4	1.6	1.2	1.6	2.4
89.5°	0.0	0.4	1.2	1.6	2.0	1.6	1.2	0.4	0.0	0.4	1.2

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21.5°	2353.6	2349.6	2353.6	2351.6	2358.3	2362.3
22°	2320.3	2316.3	2320.3	2319.5	2325.4	2329.4



44°	624.7	628.7	624.7	623.9	614.8	610.0
44.5°	604.9	607.6	604.9	603.7	595.7	591.0

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66.5°	180.1	180.5	180.1	179.7	179.3	178.9
67°	174.1	174.5	174.1	173.7	173.3	173.3

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89°	2.8	3.2	2.8	2.4	1.6	1.2
89.5°	1.6	2.0	1.6	1.2	0.4	0.0

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Scaled Data Report



(END OF REPORT)