

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: P776578

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

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776578
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B050)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD42TRH-5000lm-4000K
Description: 4 INCH ROUND NARROW HAZE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4803.8 lumens
Efficiency: N/A
Efficacy: 100.1 lumens/watt
Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.92
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

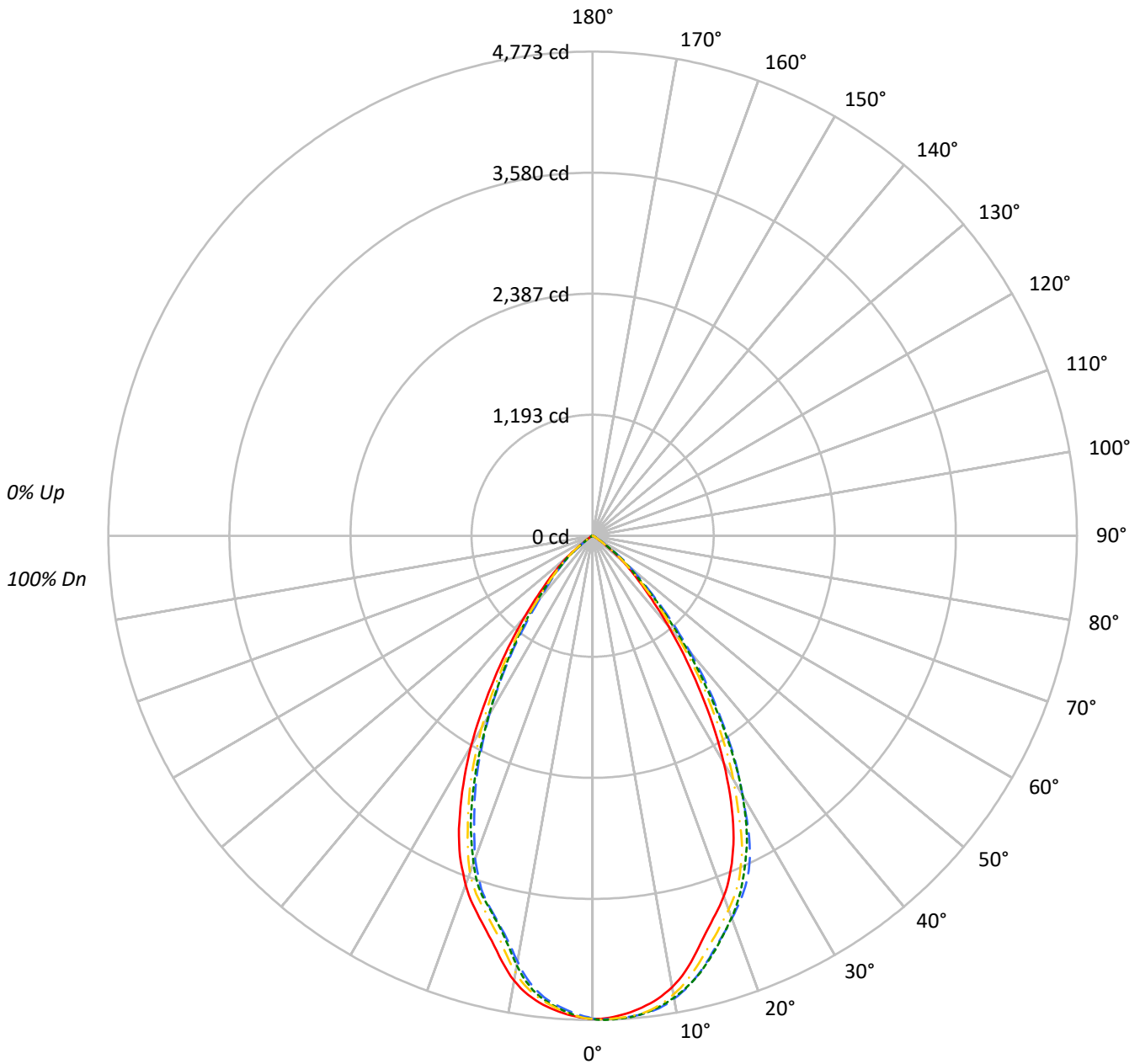
Input Watts (W): 48
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P776578

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

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	113	110	108	105	111	108	106	104	104	102	100	100	99	97	97	96	95	93																			
2	107	102	98	94	105	100	96	93	97	94	91	94	91	89	91	89	87	86																			
3	101	95	89	85	99	93	88	84	90	86	83	88	85	82	86	83	80	79																			
4	96	88	82	77	94	87	81	77	84	80	76	82	78	75	80	77	74	73																			
5	90	82	75	71	89	81	75	70	79	74	70	77	73	69	76	72	69	67																			
6	86	76	70	65	84	75	69	65	74	68	64	72	68	64	71	67	64	62																			
7	81	71	65	60	80	70	64	60	69	64	60	68	63	59	67	62	59	58																			
8	77	67	60	56	75	66	60	56	65	59	56	64	59	55	63	58	55	54																			
9	73	63	56	52	72	62	56	52	61	56	52	60	55	52	59	55	51	50																			
10	69	59	53	49	68	58	53	49	58	52	48	57	52	48	56	51	48	47																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	599133	599133	599133	599133
5°	593930	600512	591088	586009
10°	577335	590651	569144	549771
15°	539776	567683	526004	500832
20°	506430	536590	490292	459676
25°	456488	494341	431729	387433
30°	375649	429286	348198	298107
35°	279307	333233	252867	214950
40°	190817	232365	170462	146197
45°	122556	145195	108674	93012
50°	73773	84071	63279	51218
55°	28107	33263	19945	15534
60°	9514	11201	7954	6368
65°	4556	4854	3693	2978
70°	2097	2465	1766	1582
75°	1167	1410	924	924
80°	725	725	362	362
85°	0	722	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 161533 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	441.0	9.2
10°-20°	1149.7	23.9
20°-30°	1442.4	30.0
30°-40°	1101.5	22.9
40°-50°	524.9	10.9
50°-60°	125.6	2.6
60°-70°	15.6	0.3
70°-80°	2.7	0.1
80°-90°	0.3	0.0
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°	3033.1	63.1
0°-40°	4134.6	86.1
0°-60°	4785.1	99.6
0°-90°	4803.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4803.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	4761	4761	4761	4761	4761	
5°	4701	4754	4679	4639	4701	443
15°	4143	4357	4037	3844	4143	1165
25°	3287	3560	3109	2790	3287	1487
35°	1818	2169	1646	1399	1818	1136
45°	689	816	611	523	689	545
55°	128	152	91	71	128	138
65°	15	16	12	10	15	17
75°	2	3	2	2	2	3
85°	0	0	0	0	0	0
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°	4760.7	4760.7	4760.7	4760.7	4760.7	4760.7	4760.7	4760.7	4760.7	4760.7	4760.7
0.5°	4762.1	4761.2	4760.7	4759.7	4769.8	4768.8	4766.9	4763.5	4758.3	4750.2	4746.3
1°	4761.6	4764.0	4765.5	4764.5	4772.2	4771.7	4767.8	4762.6	4754.0	4742.5	4737.7
1.5°	4758.8	4764.0	4766.9	4767.8	4773.1	4772.2	4767.4	4760.7	4749.7	4732.5	4725.3
2°	4754.0	4763.5	4767.8	4769.8	4772.6	4772.2	4766.4	4757.8	4742.0	4721.9	4712.4
2.5°	4748.2	4760.7	4766.9	4769.8	4771.2	4770.7	4764.5	4754.0	4734.4	4710.0	4699.5
3°	4740.6	4756.4	4764.5	4769.3	4769.8	4769.3	4761.6	4749.2	4725.3	4697.6	4685.1
3.5°	4732.0	4753.0	4761.6	4767.4	4766.9	4766.9	4758.8	4743.9	4715.7	4683.7	4669.8
4°	4722.4	4747.3	4757.8	4765.5	4763.5	4764.5	4755.9	4737.7	4704.3	4669.8	4653.6
4.5°	4711.9	4740.6	4754.5	4761.6	4759.7	4760.7	4751.6	4730.6	4692.8	4654.0	4636.8
5°	4701.4	4733.4	4750.6	4758.3	4753.5	4755.9	4746.3	4721.5	4678.9	4637.3	4617.2
5.5°	4689.0	4726.2	4745.4	4754.5	4747.8	4750.2	4739.6	4710.9	4665.0	4619.6	4596.2
6°	4675.1	4717.6	4740.1	4749.7	4738.7	4742.5	4731.0	4699.9	4649.3	4600.0	4573.7
6.5°	4660.3	4708.1	4733.4	4742.5	4729.6	4732.5	4720.5	4686.6	4632.0	4578.0	4546.9
7°	4645.0	4697.6	4725.3	4734.9	4718.6	4721.5	4708.6	4671.7	4612.9	4553.6	4517.8
7.5°	4628.7	4684.6	4715.7	4725.8	4705.2	4707.6	4692.8	4654.0	4592.4	4525.4	4485.2
8°	4609.6	4669.8	4703.8	4714.8	4690.9	4692.3	4676.5	4635.4	4569.9	4495.3	4447.5
8.5°	4589.5	4653.1	4689.0	4701.4	4674.6	4675.6	4657.4	4615.3	4544.1	4461.3	4407.8
9°	4567.0	4634.9	4672.7	4686.1	4658.8	4656.0	4637.3	4593.3	4516.8	4424.0	4362.4
9.5°	4543.6	4615.3	4654.5	4669.8	4640.2	4637.3	4614.8	4569.9	4486.2	4382.4	4315.0
10°	4517.8	4593.3	4634.4	4651.7	4622.0	4615.3	4591.4	4543.1	4453.7	4337.5	4261.9
10.5°	4489.1	4569.4	4612.9	4633.0	4601.9	4593.3	4566.1	4514.9	4417.8	4289.2	4211.7
11°	4459.0	4545.0	4589.0	4612.4	4580.9	4569.4	4538.8	4483.3	4377.2	4240.9	4159.6
11.5°	4426.0	4518.2	4565.6	4590.9	4559.4	4544.1	4508.7	4450.8	4335.1	4191.7	4108.0
12°	4390.6	4489.6	4539.3	4569.4	4535.0	4517.8	4478.1	4416.4	4291.1	4142.4	4061.6
12.5°	4352.8	4458.0	4511.1	4544.5	4509.6	4488.1	4446.0	4379.1	4246.6	4097.9	4018.6
13°	4311.7	4425.0	4481.4	4519.7	4483.8	4459.0	4411.1	4339.9	4201.2	4055.4	3978.4
13.5°	4269.1	4390.1	4449.9	4492.4	4455.6	4426.4	4375.7	4300.2	4157.7	4013.8	3941.6
14°	4227.5	4354.7	4417.8	4464.7	4425.5	4393.4	4339.4	4259.1	4114.7	3974.6	3904.7
14.5°	4185.9	4317.4	4384.8	4435.5	4391.5	4358.5	4302.1	4217.5	4075.5	3938.2	3868.4
15°	4142.9	4277.7	4350.9	4403.0	4357.1	4323.6	4264.3	4178.3	4037.2	3900.9	3832.5
15.5°	4102.7	4239.9	4316.0	4371.9	4324.1	4288.2	4227.0	4140.0	4000.4	3866.0	3799.1
16°	4063.5	4201.7	4277.7	4337.0	4289.2	4253.8	4193.1	4102.7	3963.1	3830.6	3764.6
16.5°	4028.1	4164.4	4242.3	4303.5	4256.2	4218.4	4159.1	4066.4	3927.7	3796.2	3729.3
17°	3991.3	4127.1	4209.3	4269.1	4220.8	4185.0	4125.7	4029.6	3892.3	3761.3	3692.0
17.5°	3955.4	4092.7	4176.4	4235.6	4185.4	4150.5	4090.8	3994.2	3857.4	3723.5	3652.3
18°	3920.1	4058.7	4143.4	4202.2	4150.1	4115.1	4055.9	3959.7	3823.0	3683.4	3599.7
18.5°	3886.1	4024.3	4111.8	4168.2	4112.8	4081.2	4021.9	3925.3	3785.7	3632.7	3547.1
19°	3852.6	3991.8	4080.2	4134.8	4077.4	4046.3	3988.4	3891.8	3746.0	3582.5	3494.5
19.5°	3817.7	3957.8	4046.8	4099.4	4041.0	4013.3	3955.0	3857.4	3703.9	3531.8	3441.9
20°	3781.4	3925.3	4014.3	4065.4	4006.6	3978.4	3921.0	3821.5	3660.9	3481.1	3385.5
20.5°	3742.6	3892.8	3982.2	4031.9	3970.3	3942.5	3885.6	3783.8	3612.1	3430.4	3320.9
21°	3700.1	3859.8	3949.7	3997.0	3930.1	3906.7	3850.2	3743.1	3563.3	3367.3	3249.7



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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°	3559.5	3747.9	3845.9	3888.5	3804.8	3782.8	3731.7	3606.4	3417.0	3169.3	3052.2
23°	3508.8	3707.3	3808.2	3846.9	3758.4	3740.7	3690.1	3555.7	3361.1	3108.1	2985.2
23.5°	3455.3	3664.2	3770.4	3805.8	3709.7	3692.0	3637.0	3505.0	3301.3	3047.9	2922.1
24°	3400.8	3616.9	3729.3	3762.3	3661.4	3640.3	3583.4	3454.3	3239.6	2986.2	2859.0
24.5°	3345.8	3567.2	3685.7	3714.0	3610.7	3588.2	3530.3	3406.5	3176.5	2927.4	2795.4
25°	3287.4	3514.6	3639.4	3666.6	3560.0	3536.6	3477.3	3347.7	3109.1	2866.2	2729.9
25.5°	3225.7	3459.6	3587.2	3614.0	3508.8	3484.4	3423.7	3287.4	3039.7	2801.1	2662.5
26°	3160.7	3401.7	3533.7	3560.5	3458.1	3432.8	3353.4	3223.8	2969.0	2734.2	2593.6
26.5°	3092.8	3340.5	3472.0	3506.4	3407.0	3371.6	3281.2	3155.5	2899.2	2663.9	2523.8
27°	3024.0	3277.4	3407.9	3451.4	3350.1	3308.5	3203.7	3082.3	2830.8	2589.3	2451.1
27.5°	2953.7	3210.4	3336.7	3396.5	3289.8	3243.9	3128.7	3010.1	2758.6	2515.2	2380.3
28°	2880.5	3140.2	3260.2	3334.3	3227.2	3177.0	3054.1	2933.6	2688.8	2440.6	2309.6
28.5°	2807.3	3064.1	3184.1	3272.1	3158.8	3106.7	2982.4	2853.3	2617.5	2366.9	2240.7
29°	2731.8	2985.7	3105.2	3207.6	3094.7	3031.6	2912.1	2774.4	2546.3	2292.8	2169.9
29.5°	2660.1	2905.8	3028.7	3140.2	3023.0	2958.0	2842.3	2697.8	2472.1	2222.5	2101.1
30°	2585.0	2826.5	2954.6	3068.4	2954.1	2880.0	2772.0	2618.5	2396.1	2153.7	2034.1
30.5°	2508.0	2747.1	2883.9	2993.8	2882.4	2801.1	2701.7	2541.5	2321.0	2083.9	1966.7
31°	2432.0	2670.6	2814.5	2919.2	2812.6	2726.5	2629.9	2463.1	2245.0	2016.0	1897.4
31.5°	2354.5	2593.6	2744.7	2838.4	2736.1	2650.5	2554.9	2387.5	2167.6	1946.2	1828.1
32°	2277.1	2518.5	2673.9	2761.9	2661.5	2578.3	2479.3	2311.0	2088.7	1874.4	1758.2
32.5°	2200.1	2442.5	2600.8	2683.0	2579.7	2503.7	2402.3	2235.5	2009.3	1802.2	1689.4
33°	2122.6	2367.4	2527.1	2606.0	2499.4	2429.1	2323.9	2160.9	1934.2	1730.0	1620.5
33.5°	2047.5	2290.9	2448.2	2530.0	2415.7	2356.0	2246.5	2086.7	1857.7	1657.3	1551.2
34°	1969.1	2213.9	2370.8	2454.5	2334.4	2281.4	2170.4	2012.6	1784.5	1583.7	1484.7
34.5°	1893.6	2136.0	2292.4	2378.4	2251.7	2204.8	2095.3	1939.5	1713.8	1514.8	1419.7
35°	1818.0	2060.0	2213.0	2302.9	2169.0	2127.9	2022.7	1869.7	1645.9	1446.0	1357.1
35.5°	1743.4	1984.9	2136.9	2226.8	2088.7	2050.4	1951.4	1799.8	1576.1	1380.5	1293.5
36°	1675.5	1911.7	2064.3	2150.3	2009.3	1974.4	1880.2	1730.5	1510.1	1315.0	1231.3
36.5°	1607.1	1841.0	1993.0	2071.4	1927.0	1897.9	1807.5	1663.6	1444.1	1253.3	1171.5
37°	1538.8	1770.7	1919.9	1998.3	1849.1	1821.4	1735.8	1596.6	1381.0	1194.0	1111.3
37.5°	1470.9	1693.7	1849.6	1919.9	1772.6	1747.7	1661.2	1532.1	1318.3	1135.7	1055.3
38°	1402.5	1630.6	1777.8	1844.8	1700.4	1676.0	1589.0	1465.1	1260.5	1078.8	999.4
38.5°	1337.9	1567.0	1703.2	1766.8	1622.9	1603.3	1518.7	1399.6	1199.3	1022.8	946.8
39°	1277.2	1503.8	1633.0	1697.0	1553.6	1532.1	1449.8	1335.1	1143.8	970.2	898.0
39.5°	1218.4	1440.7	1562.7	1624.3	1484.2	1459.4	1382.9	1273.4	1089.3	920.5	854.0
40°	1161.5	1375.7	1491.9	1552.1	1414.4	1388.1	1316.4	1210.3	1037.6	874.1	811.5
40.5°	1104.1	1313.1	1421.6	1479.9	1344.6	1318.8	1253.8	1149.5	985.0	830.1	770.8
41°	1050.1	1248.5	1353.2	1407.7	1280.1	1251.4	1194.0	1092.1	936.3	789.9	734.5
41.5°	998.4	1187.8	1290.1	1339.8	1214.1	1184.0	1134.2	1037.6	889.9	750.7	701.5
42°	948.2	1126.6	1227.5	1272.9	1153.8	1118.4	1074.0	983.1	845.4	716.3	668.0
42.5°	900.4	1068.7	1166.3	1207.9	1092.1	1056.8	1016.1	932.4	801.4	680.9	636.0
43°	855.4	1013.7	1107.4	1142.8	1033.3	997.0	959.2	882.7	759.8	647.9	605.4
43.5°	810.0	960.2	1048.2	1080.7	975.9	941.0	903.7	835.4	720.6	615.9	574.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	688.6	811.5	877.9	907.6	815.8	786.1	750.3	704.3	610.6	526.0	490.1
45.5°	651.3	766.0	824.8	855.9	767.0	740.2	706.3	664.2	577.2	497.8	463.3
46°	614.5	722.0	774.2	805.2	718.7	696.7	663.7	626.4	544.6	470.0	439.4
46.5°	580.0	682.4	730.2	758.9	674.7	655.1	624.5	590.1	513.6	443.7	415.5
47°	547.0	643.1	687.6	713.4	631.7	614.9	587.2	554.7	482.5	418.9	391.1
47.5°	515.5	605.8	646.5	670.9	592.9	577.6	552.8	521.2	454.7	394.5	367.2
48°	484.9	570.0	608.2	630.7	555.6	542.2	519.3	489.6	428.4	369.6	343.3
48.5°	454.7	536.0	572.8	591.5	519.8	508.3	487.7	459.5	402.6	345.2	316.5
49°	427.0	503.0	538.4	556.6	487.3	476.3	457.6	432.7	376.3	317.0	286.9
49.5°	402.6	472.0	505.9	520.7	455.7	449.5	431.3	406.0	350.0	286.4	256.8
50°	376.8	442.8	474.3	489.2	429.4	422.7	405.0	379.7	323.2	256.3	226.7
50.5°	352.4	415.5	444.7	456.2	403.1	395.4	378.2	352.9	291.7	226.2	199.9
51°	326.6	388.8	417.0	428.0	376.3	368.7	351.9	326.1	260.1	198.0	174.1
51.5°	297.9	363.4	390.7	400.7	350.0	341.9	325.2	295.5	229.5	172.6	151.1
52°	267.3	337.1	363.9	374.4	323.2	314.6	294.1	264.0	200.8	151.1	132.5
52.5°	237.7	308.4	337.1	349.5	294.1	284.5	262.0	232.4	175.0	132.0	116.2
53°	208.0	276.9	307.9	321.8	262.5	252.5	230.5	203.2	152.5	116.2	102.3
53.5°	181.2	245.8	275.9	292.6	232.4	221.4	201.8	176.4	133.4	102.3	90.4
54°	163.5	215.2	242.9	260.1	202.3	193.2	174.5	154.0	117.2	90.9	80.3
54.5°	145.8	187.9	212.3	229.5	175.0	167.4	151.1	134.4	103.3	80.3	71.7
55°	128.1	162.6	185.1	198.4	151.6	144.9	131.5	117.6	90.9	71.7	64.1
55.5°	110.5	146.3	162.1	173.1	131.0	125.8	115.2	102.8	80.8	64.1	57.4
56°	93.2	129.6	144.9	155.9	113.8	109.0	100.9	90.9	71.7	57.4	51.6
56.5°	82.2	112.8	128.1	138.7	99.5	96.1	88.9	80.3	64.1	51.6	46.4
57°	72.7	96.6	111.4	121.5	87.5	84.6	78.4	71.2	57.4	46.9	42.6
57.5°	65.0	85.6	94.7	104.7	77.0	74.6	69.8	63.6	51.6	43.0	39.2
58°	57.9	76.0	83.7	87.5	68.4	66.5	62.2	56.9	46.4	39.2	35.4
58.5°	52.1	67.4	74.1	77.0	60.7	59.3	55.5	50.7	42.6	35.4	32.0
59°	46.9	60.2	66.0	68.4	54.0	52.6	49.7	45.9	39.2	32.0	28.2
59.5°	42.1	54.0	58.8	60.7	48.3	47.3	45.9	42.1	35.4	28.2	25.8
60°	37.8	48.3	52.6	54.0	44.5	43.5	42.1	38.7	31.6	25.8	23.4
60.5°	34.4	43.5	47.3	48.3	40.6	39.7	38.3	34.9	28.2	23.4	21.0
61°	31.1	39.2	42.6	43.5	36.8	35.9	34.4	31.1	25.3	21.0	19.6
61.5°	28.2	35.4	38.3	39.2	33.0	32.0	30.6	27.7	23.0	19.6	17.7
62°	25.3	32.0	34.4	35.4	28.7	28.2	26.8	24.9	21.0	17.7	16.3
62.5°	23.4	29.2	31.6	32.0	26.3	25.8	24.4	23.0	19.1	16.3	14.8
63°	21.0	26.3	28.7	29.2	23.9	23.4	22.0	20.6	17.7	14.8	13.4
63.5°	19.1	23.9	25.8	26.3	21.5	21.0	20.1	18.6	15.8	13.4	12.4
64°	17.7	22.0	23.4	23.9	19.6	19.1	18.2	17.2	14.8	12.4	11.5
64.5°	16.3	20.1	21.5	21.5	17.7	17.7	16.7	15.8	13.4	11.5	10.5
65°	15.3	18.2	19.6	19.6	16.3	16.3	15.3	14.3	12.4	10.5	9.6
65.5°	13.9	16.7	17.7	18.2	14.8	14.8	13.9	12.9	11.5	9.6	8.6
66°	12.4	15.3	16.3	16.7	13.9	13.4	12.9	12.0	10.0	8.6	8.1



TEST NUMBER: P776578

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

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	9.6	11.5	12.4	12.4	10.5	10.5	9.6	9.1	7.7	6.7	6.2
68°	8.6	10.5	11.5	11.5	9.6	9.6	9.1	8.6	7.2	6.2	5.7
68.5°	7.7	9.6	10.5	10.5	8.6	8.6	8.1	7.7	6.7	5.7	5.3
69°	7.2	9.1	9.6	9.6	8.1	8.1	7.7	7.2	6.2	5.3	4.8
69.5°	6.7	8.1	8.6	9.1	7.7	7.2	6.7	6.7	5.3	4.8	4.3
70°	5.7	7.7	8.1	8.1	6.7	6.7	6.2	5.7	4.8	4.3	3.8
70.5°	5.3	6.7	7.2	7.7	6.2	6.2	5.7	5.3	4.8	3.8	3.8
71°	4.8	6.2	6.7	6.7	5.7	5.7	5.3	4.8	4.3	3.8	3.3
71.5°	4.3	5.7	6.2	6.2	5.3	5.3	4.8	4.8	3.8	3.3	3.3
72°	4.3	5.3	5.7	5.7	4.8	4.8	4.3	4.3	3.3	2.9	2.9
72.5°	3.8	4.8	5.3	5.3	4.3	4.3	4.3	3.8	3.3	2.9	2.4
73°	3.3	4.3	4.8	4.8	4.3	3.8	3.8	3.3	2.9	2.4	2.4
73.5°	3.3	3.8	4.3	4.3	3.8	3.8	3.3	3.3	2.4	2.4	2.4
74°	2.9	3.8	3.8	4.3	3.3	3.3	3.3	2.9	2.4	1.9	1.9
74.5°	2.4	3.3	3.8	3.8	3.3	2.9	2.9	2.9	2.4	1.9	1.9
75°	2.4	2.9	3.3	3.3	2.9	2.9	2.9	2.4	1.9	1.4	1.4
75.5°	1.9	2.9	2.9	3.3	2.9	2.4	2.4	2.4	1.9	1.4	1.4
76°	1.9	2.4	2.9	2.9	2.4	2.4	2.4	1.9	1.4	1.4	1.4
76.5°	1.9	2.4	2.4	2.9	2.4	2.4	1.9	1.9	1.4	1.0	1.0
77°	1.4	1.9	2.4	2.4	1.9	1.9	1.9	1.4	1.4	1.0	1.0
77.5°	1.4	1.9	1.9	2.4	1.9	1.9	1.4	1.4	1.0	1.0	1.0
78°	1.4	1.4	1.9	1.9	1.4	1.4	1.4	1.4	1.0	1.0	1.0
78.5°	1.0	1.4	1.9	1.9	1.4	1.4	1.4	1.0	1.0	1.0	1.0
79°	1.0	1.4	1.4	1.4	1.4	1.4	1.4	1.0	1.0	0.5	0.5
79.5°	1.0	1.4	1.4	1.4	1.4	1.4	1.0	1.0	1.0	0.5	0.5
80°	1.0	1.0	1.4	1.4	1.0	1.0	1.0	1.0	0.5	0.5	0.5
80.5°	0.5	1.0	1.0	1.4	1.0	1.0	1.0	1.0	0.5	0.5	0.5
81°	0.5	1.0	1.0	1.0	1.0	1.0	1.0	0.5	0.5	0.5	0.5
81.5°	0.5	1.0	1.0	1.0	1.0	1.0	0.5	0.5	0.5	0.5	0.5
82°	0.5	0.5	1.0	1.0	1.0	1.0	0.5	0.5	0.5	0.0	0.5
82.5°	0.5	0.5	1.0	1.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0
83°	0.5	0.5	0.5	1.0	0.5	0.5	0.5	0.5	0.0	0.0	0.0
83.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0
84°	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0
84.5°	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776578

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

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776578

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

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	4760.7	4760.7	4760.7	4760.7	4760.7	4760.7
0.5°	4743.5	4760.2	4760.7	4760.2	4759.7	4762.1
1°	4732.5	4753.0	4754.0	4754.5	4754.9	4761.6
1.5°	4720.0	4743.9	4744.4	4746.3	4749.2	4758.8
2°	4706.6	4732.5	4734.4	4736.3	4740.6	4754.0
2.5°	4691.8	4720.0	4721.5	4724.8	4730.1	4748.2
3°	4675.6	4705.7	4708.1	4711.9	4719.1	4740.6
3.5°	4659.3	4690.9	4693.3	4698.0	4707.1	4732.0
4°	4641.1	4674.6	4677.0	4683.2	4693.7	4722.4
4.5°	4623.0	4657.4	4659.3	4667.0	4679.4	4711.9
5°	4601.0	4638.7	4642.1	4650.2	4665.0	4701.4
5.5°	4577.5	4618.7	4622.5	4632.5	4649.3	4689.0
6°	4552.2	4597.1	4601.9	4613.4	4632.0	4675.1
6.5°	4520.6	4572.8	4577.5	4592.4	4613.4	4660.3
7°	4488.6	4545.0	4552.2	4569.9	4593.8	4645.0
7.5°	4448.9	4515.4	4523.0	4545.5	4573.2	4628.7
8°	4409.7	4479.5	4491.9	4517.8	4549.3	4609.6
8.5°	4362.8	4441.3	4456.1	4486.7	4523.0	4589.5
9°	4314.5	4398.7	4416.4	4452.7	4495.3	4567.0
9.5°	4261.5	4352.3	4371.9	4415.0	4464.7	4543.6
10°	4208.4	4302.1	4325.1	4372.9	4431.2	4517.8
10.5°	4155.3	4248.6	4274.9	4327.5	4392.5	4489.1
11°	4103.7	4194.5	4223.2	4279.6	4351.8	4459.0
11.5°	4052.0	4140.0	4167.7	4228.9	4308.8	4426.0
12°	4010.9	4088.4	4117.5	4177.8	4261.9	4390.6
12.5°	3970.3	4040.6	4066.8	4126.6	4213.2	4352.8
13°	3932.0	3996.1	4023.3	4081.2	4166.8	4311.7
13.5°	3895.7	3955.0	3982.7	4036.2	4121.4	4269.1
14°	3858.4	3916.2	3944.0	3996.6	4077.4	4227.5
14.5°	3826.8	3880.8	3908.6	3959.3	4036.2	4185.9
15°	3790.9	3844.0	3872.7	3922.0	3997.0	4142.9
15.5°	3759.4	3810.1	3838.3	3885.6	3959.7	4102.7
16°	3727.3	3778.0	3803.4	3849.8	3922.0	4063.5
16.5°	3691.0	3745.0	3770.9	3815.8	3885.1	4028.1
17°	3652.3	3714.0	3737.4	3780.9	3852.2	3991.3
17.5°	3601.6	3679.1	3703.9	3746.5	3816.8	3955.4
18°	3551.4	3638.4	3664.7	3712.0	3782.3	3920.1
18.5°	3501.2	3593.0	3622.2	3672.4	3746.0	3886.1
19°	3451.0	3543.7	3577.7	3631.2	3708.2	3852.6
19.5°	3400.3	3489.7	3527.5	3582.9	3666.6	3817.7
20°	3339.1	3432.3	3473.0	3532.7	3622.6	3781.4
20.5°	3273.1	3373.0	3417.0	3477.7	3574.3	3742.6
21°	3208.1	3314.2	3355.8	3418.0	3522.2	3700.1



TEST NUMBER: P776578

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

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	3007.7	3136.3	3160.7	3220.5	3344.8	3559.5
23°	2937.4	3073.2	3091.4	3152.1	3282.2	3508.8
23.5°	2872.4	3007.7	3022.5	3086.6	3217.1	3455.3
24°	2798.7	2936.9	2955.1	3020.1	3153.5	3400.8
24.5°	2731.8	2867.1	2883.9	2953.2	3088.0	3345.8
25°	2661.0	2790.1	2815.0	2889.1	3026.3	3287.4
25.5°	2591.7	2717.9	2746.1	2822.2	2962.8	3225.7
26°	2521.4	2644.8	2675.4	2756.2	2900.1	3160.7
26.5°	2453.0	2571.6	2607.5	2686.8	2835.6	3092.8
27°	2381.8	2494.1	2534.8	2617.0	2767.7	3024.0
27.5°	2312.9	2420.0	2463.5	2546.3	2699.3	2953.7
28°	2241.7	2345.0	2391.8	2469.3	2628.5	2880.5
28.5°	2170.9	2268.9	2321.5	2400.4	2555.8	2807.3
29°	2096.3	2195.8	2248.8	2327.3	2482.7	2731.8
29.5°	2022.2	2122.1	2178.5	2256.5	2405.2	2660.1
30°	1951.4	2051.4	2107.3	2187.6	2331.6	2585.0
30.5°	1877.8	1981.5	2033.7	2116.9	2255.1	2508.0
31°	1809.4	1914.1	1961.5	2047.5	2179.5	2432.0
31.5°	1741.0	1846.7	1888.8	1978.2	2104.4	2354.5
32°	1675.0	1781.2	1819.0	1908.9	2032.2	2277.1
32.5°	1611.0	1712.8	1749.6	1839.5	1961.0	2200.1
33°	1545.5	1649.7	1685.1	1768.3	1888.8	2122.6
33.5°	1483.8	1586.6	1620.0	1692.2	1817.1	2047.5
34°	1420.6	1523.5	1555.0	1626.7	1745.3	1969.1
34.5°	1360.9	1460.3	1490.0	1561.2	1674.6	1893.6
35°	1302.1	1399.1	1425.4	1495.7	1603.8	1818.0
35.5°	1243.7	1342.7	1363.7	1430.2	1533.0	1743.4
36°	1187.8	1286.3	1304.5	1365.7	1462.2	1675.5
36.5°	1134.7	1234.2	1245.6	1302.1	1392.0	1607.1
37°	1082.6	1179.2	1189.7	1238.5	1325.0	1538.8
37.5°	1033.3	1127.1	1134.2	1175.8	1261.4	1470.9
38°	984.6	1075.9	1081.6	1115.1	1199.3	1402.5
38.5°	937.2	1026.2	1030.5	1055.8	1141.9	1337.9
39°	893.2	980.7	980.7	997.5	1085.9	1277.2
39.5°	847.8	932.9	934.3	943.9	1030.9	1218.4
40°	806.7	889.9	887.5	892.3	977.4	1161.5
40.5°	765.6	845.9	843.5	845.4	925.7	1104.1
41°	726.8	805.2	800.5	800.9	877.9	1050.1
41.5°	691.0	764.1	759.3	761.2	832.0	998.4
42°	655.6	726.3	721.1	723.5	789.9	948.2
42.5°	622.6	689.0	684.3	688.6	748.3	900.4
43°	588.6	653.2	648.9	655.1	710.1	855.4
43.5°	558.0	618.8	615.4	624.0	673.7	810.0



TEST NUMBER: P776578

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

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	470.5	522.6	522.2	534.6	576.2	688.6
45.5°	444.7	492.5	493.0	507.3	546.1	651.3
46°	420.8	463.8	465.3	479.6	516.9	614.5
46.5°	396.9	437.0	439.0	453.3	488.7	580.0
47°	373.0	412.2	414.6	428.4	461.4	547.0
47.5°	348.6	388.8	390.7	404.5	434.7	515.5
48°	325.6	364.8	367.7	381.6	409.8	484.9
48.5°	297.4	342.4	345.7	359.1	386.4	454.7
49°	267.8	317.5	321.8	336.6	362.9	427.0
49.5°	237.7	290.7	296.0	312.7	339.5	402.6
50°	209.0	261.6	267.8	285.9	315.1	376.8
50.5°	182.7	231.4	239.1	257.3	286.9	352.4
51°	157.8	202.3	209.9	229.0	257.7	326.6
51.5°	137.7	176.4	183.1	200.8	229.0	297.9
52°	120.0	158.8	165.4	175.0	200.4	267.3
52.5°	105.7	141.5	147.3	157.8	174.5	237.7
53°	92.8	124.8	129.1	140.6	157.8	208.0
53.5°	82.2	107.6	111.4	123.8	140.6	181.2
54°	73.2	90.4	93.2	106.6	123.4	163.5
54.5°	65.5	79.4	82.2	89.4	106.2	145.8
55°	58.3	70.8	73.2	79.4	89.4	128.1
55.5°	52.6	63.1	65.0	70.3	78.9	110.5
56°	47.3	56.4	58.3	62.6	70.3	93.2
56.5°	43.5	50.7	52.1	55.9	62.6	82.2
57°	39.7	45.9	46.9	50.2	55.9	72.7
57.5°	35.9	41.1	42.1	44.9	50.2	65.0
58°	32.0	37.3	38.3	40.6	44.9	57.9
58.5°	28.7	33.5	34.4	36.8	40.6	52.1
59°	25.8	30.6	31.1	33.5	36.8	46.9
59.5°	23.4	27.7	28.2	30.1	33.0	42.1
60°	21.5	25.3	25.8	27.3	30.1	37.8
60.5°	19.6	23.0	23.4	24.9	27.3	34.4
61°	17.7	20.6	21.0	22.5	24.9	31.1
61.5°	16.3	19.1	19.6	20.6	22.5	28.2
62°	14.8	17.7	18.2	18.6	20.6	25.3
62.5°	13.4	16.3	16.7	17.2	18.6	23.4
63°	12.4	14.8	15.3	15.8	17.2	21.0
63.5°	11.5	13.4	13.9	14.3	15.8	19.1
64°	10.5	12.0	12.4	12.9	14.3	17.7
64.5°	9.6	11.0	11.5	12.0	12.9	16.3
65°	8.6	10.0	10.5	11.0	12.0	15.3
65.5°	8.1	9.6	9.6	10.0	11.0	13.9
66°	7.2	8.6	8.6	9.1	10.0	12.4



TEST NUMBER: P776578

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

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	5.7	6.7	6.7	7.2	7.7	9.6
68°	5.3	6.2	6.2	6.7	7.2	8.6
68.5°	4.8	5.7	5.7	6.2	6.7	7.7
69°	4.3	5.3	5.3	5.3	5.7	7.2
69.5°	3.8	4.8	4.8	5.3	5.3	6.7
70°	3.8	4.3	4.3	4.8	4.8	5.7
70.5°	3.3	3.8	3.8	4.3	4.3	5.3
71°	3.3	3.8	3.8	3.8	4.3	4.8
71.5°	2.9	3.3	3.3	3.3	3.8	4.3
72°	2.4	2.9	2.9	3.3	3.3	4.3
72.5°	2.4	2.9	2.9	2.9	3.3	3.8
73°	2.4	2.4	2.4	2.9	2.9	3.3
73.5°	1.9	2.4	2.4	2.4	2.4	3.3
74°	1.9	1.9	1.9	2.4	2.4	2.9
74.5°	1.4	1.9	1.9	1.9	1.9	2.4
75°	1.4	1.9	1.9	1.9	1.9	2.4
75.5°	1.4	1.4	1.4	1.9	1.9	1.9
76°	1.4	1.4	1.4	1.4	1.4	1.9
76.5°	1.0	1.4	1.4	1.4	1.4	1.9
77°	1.0	1.0	1.4	1.4	1.4	1.4
77.5°	1.0	1.0	1.0	1.0	1.0	1.4
78°	1.0	1.0	1.0	1.0	1.0	1.4
78.5°	1.0	1.0	1.0	1.0	1.0	1.0
79°	0.5	1.0	1.0	1.0	1.0	1.0
79.5°	0.5	0.5	0.5	0.5	0.5	1.0
80°	0.5	0.5	0.5	0.5	0.5	1.0
80.5°	0.5	0.5	0.5	0.5	0.5	0.5
81°	0.5	0.5	0.5	0.5	0.5	0.5
81.5°	0.5	0.5	0.5	0.5	0.5	0.5
82°	0.5	0.5	0.5	0.5	0.5	0.5
82.5°	0.0	0.5	0.5	0.5	0.5	0.5
83°	0.0	0.5	0.5	0.5	0.0	0.5
83.5°	0.0	0.0	0.0	0.0	0.0	0.5
84°	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776578

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRH-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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Cooper Lighting Solutions Photometric Lab
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Scaled Data Report





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

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Scaled Data Report





21.5°	3655.1	3824.4	3916.7	3962.1	3890.9	3866.5	3812.5	3699.6	3514.6	3300.8	3182.2
22°	3608.8	3787.1	3881.3	3926.3	3847.8	3826.8	3773.3	3657.1	3465.8	3233.4	3117.2



44°	767.5	907.6	988.9	1021.4	921.9	887.0	849.2	789.0	682.8	585.8	546.1
44.5°	727.3	858.3	932.9	963.5	868.4	834.9	799.0	746.4	646.0	555.2	517.9



66.5°	11.0	13.9	15.3	15.3	12.4	12.4	11.5	11.0	9.6	8.1	7.2
67°	10.0	12.4	13.9	13.9	11.5	11.0	10.5	10.0	8.6	7.2	6.7



89°	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0

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21.5°	3142.1	3255.4	3292.7	3353.4	3466.3	3655.1
22°	3077.0	3195.6	3227.2	3286.0	3406.5	3608.8



44°	528.4	585.3	582.9	592.5	639.3	767.5
44.5°	499.2	553.2	551.8	563.8	607.8	727.3

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66.5°	6.7	7.7	8.1	8.6	9.1	11.0
67°	6.2	7.2	7.2	7.7	8.6	10.0

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89°	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0

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Scaled Data Report



(END OF REPORT)