

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: P776773

Luminaire Tested: HCDJBS4050CSD-HCD82TRC-5000lm-4000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776773
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B062-HCD82TRC)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD82TRC-5000lm-4000K
Description: 8 INCH ROUND NARROW SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

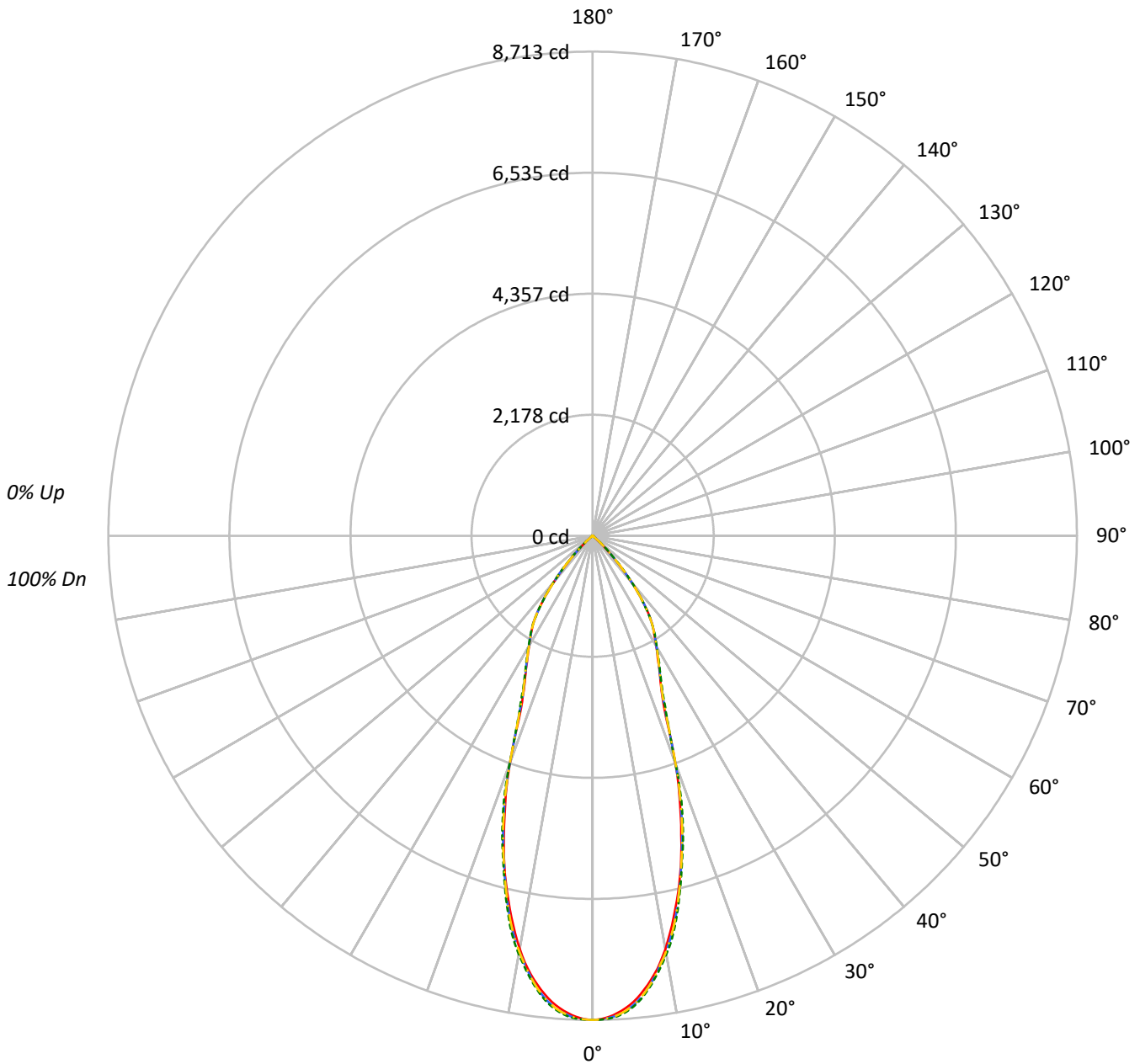
Lumens per Lamp: N/A
Luminaire Lumens: 5320.0 lumens
Efficiency: N/A
Efficacy: 110.8 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 0.66 / 0.66
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

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



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	114	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94																			
2	108	104	100	97	106	102	99	96	99	96	94	96	94	92	93	91	90	88																			
3	103	97	92	89	101	96	91	88	93	90	87	91	88	85	89	86	84	82																			
4	98	91	86	82	97	90	85	81	88	84	80	86	82	80	84	81	79	77																			
5	94	86	80	76	92	85	80	76	83	79	75	81	78	74	80	77	74	72																			
6	89	81	75	71	88	80	75	71	79	74	70	77	73	70	76	72	69	68																			
7	85	76	71	67	84	76	70	67	75	70	66	73	69	66	72	68	65	64																			
8	81	72	67	63	80	72	66	63	71	66	62	70	65	62	69	65	62	61																			
9	78	69	63	59	77	68	63	59	67	62	59	66	62	59	66	62	59	57																			
10	75	65	60	56	74	65	60	56	64	59	56	63	59	56	63	59	56	54																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	265931	265931	265931	265931
5°	257989	260597	257989	260597
10°	233917	237064	233917	237064
15°	193958	195636	193958	195636
20°	141242	141834	141242	141834
25°	97307	98661	97307	98661
30°	80617	81460	80617	81460
35°	67292	66972	67292	66972
40°	43071	43665	43071	43665
45°	17435	19149	17435	19149
50°	3273	3633	3273	3633
55°	995	969	995	969
60°	641	641	641	641
65°	448	448	448	448
70°	295	339	295	339
75°	224	224	224	224
80°	176	176	176	176
85°	0	175	0	175

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 19149 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	780.6	14.7
10°-20°	1683.7	31.6
20°-30°	1381.1	26.0
30°-40°	1087.1	20.4
40°-50°	357.6	6.7
50°-60°	20.9	0.4
60°-70°	6.4	0.1
70°-80°	2.2	0.0
80°-90°	0.4	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°	3845.4	72.3
0°-40°	4932.5	92.7
0°-60°	5311.0	99.8
0°-90°	5320.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5320.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	8710	8710	8710	8710	8710	
5°	8418	8503	8418	8503	8418	776
15°	6136	6190	6136	6190	6136	1670
25°	2889	2929	2889	2929	2889	1372
35°	1806	1797	1806	1797	1806	1086
45°	404	444	404	444	404	344
55°	19	18	19	18	19	20
65°	6	6	6	6	6	6
75°	2	2	2	2	2	2
85°	0	0	0	0	0	0
90°	0	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°	8710.4	8710.4	8710.4	8710.4	8710.4	8710.4	8710.4	8710.4	8710.4	8710.4	8710.4
0.5°	8706.5	8707.5	8711.8	8703.2	8712.8	8703.2	8711.8	8707.5	8706.5	8707.5	8711.8
1°	8697.4	8699.4	8706.1	8697.9	8708.0	8697.9	8706.1	8699.4	8697.4	8699.4	8706.1
1.5°	8681.2	8685.5	8695.5	8689.3	8699.8	8689.3	8695.5	8685.5	8681.2	8685.5	8695.5
2°	8659.6	8665.4	8680.7	8676.4	8691.2	8676.4	8680.7	8665.4	8659.6	8665.4	8680.7
2.5°	8631.9	8641.0	8660.1	8659.2	8675.4	8659.2	8660.1	8641.0	8631.9	8641.0	8660.1
3°	8599.8	8611.8	8635.2	8635.7	8654.4	8635.7	8635.2	8611.8	8599.8	8611.8	8635.2
3.5°	8562.5	8578.3	8604.6	8606.1	8627.1	8606.1	8604.6	8578.3	8562.5	8578.3	8604.6
4°	8520.9	8542.0	8568.3	8570.2	8593.1	8570.2	8568.3	8542.0	8520.9	8542.0	8568.3
4.5°	8472.6	8498.9	8524.7	8529.0	8552.0	8529.0	8524.7	8498.9	8472.6	8498.9	8524.7
5°	8418.1	8451.1	8475.0	8481.2	8503.2	8481.2	8475.0	8451.1	8418.1	8451.1	8475.0
5.5°	8357.3	8396.5	8415.7	8427.6	8446.8	8427.6	8415.7	8396.5	8357.3	8396.5	8415.7
6°	8290.8	8334.8	8350.1	8368.3	8380.3	8368.3	8350.1	8334.8	8290.8	8334.8	8350.1
6.5°	8218.1	8265.4	8275.5	8301.8	8306.1	8301.8	8275.5	8265.4	8218.1	8265.4	8275.5
7°	8141.5	8187.9	8194.6	8230.5	8223.8	8230.5	8194.6	8187.9	8141.5	8187.9	8194.6
7.5°	8060.2	8102.8	8105.7	8152.5	8137.7	8152.5	8105.7	8102.8	8060.2	8102.8	8105.7
8°	7973.1	8010.9	8012.8	8067.9	8044.9	8067.9	8012.8	8010.9	7973.1	8010.9	8012.8
8.5°	7877.9	7909.0	7913.8	7975.0	7950.2	7975.0	7913.8	7909.0	7877.9	7909.0	7913.8
9°	7776.5	7800.4	7811.4	7873.6	7849.7	7873.6	7811.4	7800.4	7776.5	7800.4	7811.4
9.5°	7664.6	7681.8	7707.1	7763.6	7750.7	7763.6	7707.1	7681.8	7664.6	7681.8	7707.1
10°	7545.4	7558.4	7598.1	7643.0	7646.9	7643.0	7598.1	7558.4	7545.4	7558.4	7598.1
10.5°	7419.1	7427.3	7485.6	7515.3	7540.2	7515.3	7485.6	7427.3	7419.1	7427.3	7485.6
11°	7290.4	7293.8	7368.9	7381.8	7423.4	7381.8	7368.9	7293.8	7290.4	7293.8	7368.9
11.5°	7156.0	7158.4	7243.1	7244.0	7295.2	7244.0	7243.1	7158.4	7156.0	7158.4	7243.1
12°	7020.6	7022.5	7104.8	7107.2	7157.4	7107.2	7104.8	7022.5	7020.6	7022.5	7104.8
12.5°	6878.1	6889.5	6955.1	6968.0	7003.9	6968.0	6955.1	6889.5	6878.1	6889.5	6955.1
13°	6737.9	6754.6	6800.6	6826.4	6849.8	6826.4	6800.6	6754.6	6737.9	6754.6	6800.6
13.5°	6592.5	6615.4	6639.3	6676.2	6684.8	6676.2	6639.3	6615.4	6592.5	6615.4	6639.3
14°	6446.1	6469.0	6478.6	6519.3	6518.8	6519.3	6478.6	6469.0	6446.1	6469.0	6478.6
14.5°	6293.9	6312.1	6319.3	6360.4	6354.7	6360.4	6319.3	6312.1	6293.9	6312.1	6319.3
15°	6136.5	6148.0	6159.5	6196.8	6189.6	6196.8	6159.5	6148.0	6136.5	6148.0	6159.5
15.5°	5968.1	5974.8	6000.2	6033.7	6035.1	6033.7	6000.2	5974.8	5968.1	5974.8	6000.2
16°	5796.9	5801.2	5839.4	5869.1	5876.3	5869.1	5839.4	5801.2	5796.9	5801.2	5839.4
16.5°	5616.5	5629.4	5674.9	5706.0	5723.2	5706.0	5674.9	5629.4	5616.5	5629.4	5674.9
17°	5441.9	5457.2	5507.4	5544.3	5566.3	5544.3	5507.4	5457.2	5441.9	5457.2	5507.4
17.5°	5265.3	5286.4	5331.8	5376.8	5398.3	5376.8	5331.8	5286.4	5265.3	5286.4	5331.8
18°	5095.5	5110.8	5152.4	5201.2	5219.9	5201.2	5152.4	5110.8	5095.5	5110.8	5152.4
18.5°	4918.5	4932.9	4964.9	5013.7	5028.1	5013.7	4964.9	4932.9	4918.5	4932.9	4964.9
19°	4737.2	4746.8	4771.6	4808.0	4822.8	4808.0	4771.6	4746.8	4737.2	4746.8	4771.6
19.5°	4547.7	4548.7	4567.4	4595.1	4609.0	4595.1	4567.4	4548.7	4547.7	4548.7	4567.4
20°	4347.3	4347.3	4357.3	4372.6	4365.5	4372.6	4357.3	4347.3	4347.3	4347.3	4357.3
20.5°	4150.2	4143.0	4147.3	4146.8	4125.8	4146.8	4147.3	4143.0	4150.2	4143.0	4147.3
21°	3947.3	3942.6	3924.9	3942.6	3935.9	3942.6	3924.9	3942.6	3947.3	3942.6	3924.9



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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°	3379.9	3402.4	3433.0	3469.9	3453.6	3469.9	3433.0	3402.4	3379.9	3402.4	3433.0
23°	3247.4	3262.7	3294.3	3344.5	3345.0	3344.5	3294.3	3262.7	3247.4	3262.7	3294.3
23.5°	3149.8	3147.4	3167.5	3215.9	3222.1	3215.9	3167.5	3147.4	3149.8	3147.4	3167.5
24°	3045.1	3055.6	3068.0	3107.3	3110.1	3107.3	3068.0	3055.6	3045.1	3055.6	3068.0
24.5°	2964.7	2970.0	2981.0	3005.8	3005.8	3005.8	2981.0	2970.0	2964.7	2970.0	2981.0
25°	2888.6	2895.3	2906.8	2929.8	2928.8	2929.8	2906.8	2895.3	2888.6	2895.3	2906.8
25.5°	2817.8	2821.2	2833.1	2854.7	2856.1	2854.7	2833.1	2821.2	2817.8	2821.2	2833.1
26°	2749.4	2752.3	2760.9	2777.2	2779.5	2777.2	2760.9	2752.3	2749.4	2752.3	2760.9
26.5°	2684.8	2685.8	2695.8	2710.7	2712.1	2710.7	2695.8	2685.8	2684.8	2685.8	2695.8
27°	2619.3	2622.1	2632.7	2651.3	2656.1	2651.3	2632.7	2622.1	2619.3	2622.1	2632.7
27.5°	2557.6	2561.4	2571.4	2589.6	2596.3	2589.6	2571.4	2561.4	2557.6	2561.4	2571.4
28°	2499.2	2503.0	2512.6	2526.0	2532.2	2526.0	2512.6	2503.0	2499.2	2503.0	2512.6
28.5°	2445.1	2447.1	2456.1	2466.7	2471.9	2466.7	2456.1	2447.1	2445.1	2447.1	2456.1
29°	2391.6	2393.0	2401.6	2410.7	2416.4	2410.7	2401.6	2393.0	2391.6	2393.0	2401.6
29.5°	2338.5	2341.3	2348.5	2358.5	2363.3	2358.5	2348.5	2341.3	2338.5	2341.3	2348.5
30°	2286.8	2289.7	2296.4	2305.9	2310.7	2305.9	2296.4	2289.7	2286.8	2289.7	2296.4
30.5°	2236.6	2238.9	2245.6	2254.7	2258.1	2254.7	2245.6	2238.9	2236.6	2238.9	2245.6
31°	2187.3	2189.7	2195.9	2205.5	2210.2	2205.5	2195.9	2189.7	2187.3	2189.7	2195.9
31.5°	2139.9	2142.3	2149.0	2157.6	2161.0	2157.6	2149.0	2142.3	2139.9	2142.3	2149.0
32°	2094.5	2096.4	2102.6	2111.2	2114.6	2111.2	2102.6	2096.4	2094.5	2096.4	2102.6
32.5°	2050.9	2052.8	2057.2	2065.3	2068.2	2065.3	2057.2	2052.8	2050.9	2052.8	2057.2
33°	2008.8	2009.8	2012.2	2016.0	2018.9	2016.0	2012.2	2009.8	2008.8	2009.8	2012.2
33.5°	1965.3	1965.3	1964.3	1962.4	1966.7	1962.4	1964.3	1965.3	1965.3	1965.3	1964.3
34°	1916.0	1914.1	1913.2	1906.9	1916.5	1906.9	1913.2	1914.1	1916.0	1914.1	1913.2
34.5°	1862.9	1858.6	1858.1	1850.0	1857.2	1850.0	1858.1	1858.6	1862.9	1858.6	1858.1
35°	1805.5	1799.8	1799.8	1792.1	1796.9	1792.1	1799.8	1799.8	1805.5	1799.8	1799.8
35.5°	1742.8	1740.4	1737.6	1730.9	1733.7	1730.9	1737.6	1740.4	1742.8	1740.4	1737.6
36°	1677.8	1676.8	1671.6	1667.7	1668.2	1667.7	1671.6	1676.8	1677.8	1676.8	1671.6
36.5°	1608.9	1610.8	1603.1	1600.8	1597.9	1600.8	1603.1	1610.8	1608.9	1610.8	1603.1
37°	1534.7	1540.5	1533.8	1532.3	1528.5	1532.3	1533.8	1540.5	1534.7	1540.5	1533.8
37.5°	1461.1	1465.4	1463.4	1461.1	1459.6	1461.1	1463.4	1465.4	1461.1	1465.4	1463.4
38°	1387.4	1390.7	1388.3	1390.3	1388.8	1390.3	1388.3	1390.7	1387.4	1390.7	1388.3
38.5°	1313.7	1311.8	1312.7	1313.2	1317.1	1313.2	1312.7	1311.8	1313.7	1311.8	1312.7
39°	1238.6	1234.3	1236.7	1236.7	1244.3	1236.7	1236.7	1234.3	1238.6	1234.3	1236.7
39.5°	1159.7	1157.3	1160.6	1163.5	1169.2	1163.5	1160.6	1157.3	1159.7	1157.3	1160.6
40°	1080.7	1082.6	1086.9	1091.2	1095.6	1091.2	1086.9	1082.6	1080.7	1082.6	1086.9
40.5°	1002.3	1007.0	1011.4	1021.9	1021.4	1021.9	1011.4	1007.0	1002.3	1007.0	1011.4
41°	926.2	931.5	937.7	950.1	948.2	950.1	937.7	931.5	926.2	931.5	937.7
41.5°	849.7	856.3	864.5	879.3	876.0	879.3	864.5	856.3	849.7	856.3	864.5
42°	776.9	783.6	794.6	809.5	807.1	809.5	794.6	783.6	776.9	783.6	794.6
42.5°	706.6	712.8	727.2	742.5	741.1	742.5	727.2	712.8	706.6	712.8	727.2
43°	638.7	646.8	661.6	678.9	677.4	678.9	661.6	646.8	638.7	646.8	661.6
43.5°	577.9	582.2	597.1	613.8	615.2	613.8	597.1	582.2	577.9	582.2	597.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	403.8	405.7	422.0	437.3	443.5	437.3	422.0	405.7	403.8	405.7	422.0
45.5°	348.3	352.6	370.8	384.2	392.3	384.2	370.8	352.6	348.3	352.6	370.8
46°	299.5	302.8	322.4	337.8	346.4	337.8	322.4	302.8	299.5	302.8	322.4
46.5°	255.5	261.2	276.5	295.7	305.7	295.7	276.5	261.2	255.5	261.2	276.5
47°	215.3	222.0	233.9	255.5	265.0	255.5	233.9	222.0	215.3	222.0	233.9
47.5°	180.8	187.5	198.5	217.2	224.4	217.2	198.5	187.5	180.8	187.5	198.5
48°	149.7	157.9	165.5	182.3	183.7	182.3	165.5	157.9	149.7	157.9	165.5
48.5°	123.4	130.6	136.8	151.2	148.8	151.2	136.8	130.6	123.4	130.6	136.8
49°	102.4	106.7	111.0	124.4	120.6	124.4	111.0	106.7	102.4	106.7	111.0
49.5°	85.6	87.1	91.9	100.0	95.7	100.0	91.9	87.1	85.6	87.1	91.9
50°	68.9	68.4	73.7	81.3	76.5	81.3	73.7	68.4	68.9	68.4	73.7
50.5°	52.1	54.1	56.9	64.6	60.3	64.6	56.9	54.1	52.1	54.1	56.9
51°	40.2	41.1	46.4	51.7	47.8	51.7	46.4	41.1	40.2	41.1	46.4
51.5°	30.1	34.0	36.8	43.1	42.6	43.1	36.8	34.0	30.1	34.0	36.8
52°	26.3	28.2	31.1	34.0	37.3	34.0	31.1	28.2	26.3	28.2	31.1
52.5°	23.9	24.4	26.8	28.7	31.6	28.7	26.8	24.4	23.9	24.4	26.8
53°	22.5	23.0	23.0	24.9	26.3	24.9	23.0	23.0	22.5	23.0	23.0
53.5°	21.5	21.5	22.0	21.5	21.0	21.5	22.0	21.5	21.5	21.5	22.0
54°	20.6	20.6	20.6	20.6	20.1	20.6	20.6	20.6	20.6	20.6	20.6
54.5°	19.6	19.6	19.6	19.6	19.1	19.6	19.6	19.6	19.6	19.6	19.6
55°	18.7	18.7	18.7	18.7	18.2	18.7	18.7	18.7	18.7	18.7	18.7
55.5°	17.7	17.7	17.7	17.7	17.2	17.7	17.7	17.7	17.7	17.7	17.7
56°	16.7	16.7	16.7	16.7	16.3	16.7	16.7	16.7	16.7	16.7	16.7
56.5°	15.8	15.8	16.3	15.8	15.3	15.8	16.3	15.8	15.8	15.8	16.3
57°	14.8	14.8	15.3	14.8	14.8	14.8	15.3	14.8	14.8	14.8	15.3
57.5°	13.9	14.4	14.4	13.9	13.9	13.9	14.4	14.4	13.9	14.4	14.4
58°	13.4	13.4	13.4	13.4	12.9	13.4	13.4	13.4	13.4	13.4	13.4
58.5°	12.4	12.9	12.9	12.4	12.4	12.4	12.9	12.9	12.4	12.9	12.9
59°	12.0	12.0	12.0	12.0	11.5	12.0	12.0	12.0	12.0	12.0	12.0
59.5°	11.0	11.5	11.5	11.5	11.0	11.5	11.5	11.5	11.0	11.5	11.5
60°	10.5	10.5	11.0	10.5	10.5	10.5	11.0	10.5	10.5	10.5	11.0
60.5°	10.0	10.0	10.5	10.0	10.0	10.0	10.5	10.0	10.0	10.0	10.5
61°	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
61.5°	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
62°	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
62.5°	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
63°	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
63.5°	7.2	7.2	7.7	7.2	7.2	7.2	7.7	7.2	7.2	7.2	7.7
64°	6.7	6.7	7.2	7.2	6.7	7.2	7.2	6.7	6.7	6.7	7.2
64.5°	6.2	6.7	6.7	6.7	6.2	6.7	6.7	6.7	6.2	6.7	6.7
65°	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
65.5°	5.7	5.7	6.2	5.7	5.7	5.7	6.2	5.7	5.7	5.7	6.2
66°	5.3	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.3	5.7	5.7



TEST NUMBER: P776773

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRC-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
68°	4.3	4.3	4.8	4.8	4.3	4.8	4.8	4.3	4.3	4.3	4.8
68.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
69°	3.8	3.8	4.3	4.3	3.8	4.3	4.3	3.8	3.8	3.8	4.3
69.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
70°	3.3	3.3	3.8	3.8	3.8	3.8	3.8	3.3	3.3	3.3	3.8
70.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
71°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
71.5°	2.9	2.9	3.3	3.3	2.9	3.3	3.3	2.9	2.9	2.9	3.3
72°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
72.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
73°	2.4	2.4	2.4	2.9	2.4	2.9	2.4	2.4	2.4	2.4	2.4
73.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
74°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
74.5°	1.9	1.9	2.4	2.4	2.4	2.4	2.4	1.9	1.9	1.9	2.4
75°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
75.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
76°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
76.5°	1.4	1.4	1.4	1.9	1.9	1.9	1.4	1.4	1.4	1.4	1.4
77°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
77.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
78°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
78.5°	1.0	1.0	1.4	1.4	1.4	1.4	1.4	1.0	1.0	1.0	1.4
79°	1.0	1.0	1.0	1.4	1.0	1.4	1.0	1.0	1.0	1.0	1.0
79.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
80.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
81°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
81.5°	0.5	0.5	1.0	1.0	1.0	1.0	1.0	0.5	0.5	0.5	1.0
82°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
82.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
83°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
83.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
84°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
84.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
85°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.5
85.5°	0.0	0.0	0.0	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	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	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: P776773
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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: P776773

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRC-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	8710.4	8710.4	8710.4	8710.4	8710.4	8710.4
0.5°	8703.2	8712.8	8703.2	8711.8	8707.5	8706.5
1°	8697.9	8708.0	8697.9	8706.1	8699.4	8697.4
1.5°	8689.3	8699.8	8689.3	8695.5	8685.5	8681.2
2°	8676.4	8691.2	8676.4	8680.7	8665.4	8659.6
2.5°	8659.2	8675.4	8659.2	8660.1	8641.0	8631.9
3°	8635.7	8654.4	8635.7	8635.2	8611.8	8599.8
3.5°	8606.1	8627.1	8606.1	8604.6	8578.3	8562.5
4°	8570.2	8593.1	8570.2	8568.3	8542.0	8520.9
4.5°	8529.0	8552.0	8529.0	8524.7	8498.9	8472.6
5°	8481.2	8503.2	8481.2	8475.0	8451.1	8418.1
5.5°	8427.6	8446.8	8427.6	8415.7	8396.5	8357.3
6°	8368.3	8380.3	8368.3	8350.1	8334.8	8290.8
6.5°	8301.8	8306.1	8301.8	8275.5	8265.4	8218.1
7°	8230.5	8223.8	8230.5	8194.6	8187.9	8141.5
7.5°	8152.5	8137.7	8152.5	8105.7	8102.8	8060.2
8°	8067.9	8044.9	8067.9	8012.8	8010.9	7973.1
8.5°	7975.0	7950.2	7975.0	7913.8	7909.0	7877.9
9°	7873.6	7849.7	7873.6	7811.4	7800.4	7776.5
9.5°	7763.6	7750.7	7763.6	7707.1	7681.8	7664.6
10°	7643.0	7646.9	7643.0	7598.1	7558.4	7545.4
10.5°	7515.3	7540.2	7515.3	7485.6	7427.3	7419.1
11°	7381.8	7423.4	7381.8	7368.9	7293.8	7290.4
11.5°	7244.0	7295.2	7244.0	7243.1	7158.4	7156.0
12°	7107.2	7157.4	7107.2	7104.8	7022.5	7020.6
12.5°	6968.0	7003.9	6968.0	6955.1	6889.5	6878.1
13°	6826.4	6849.8	6826.4	6800.6	6754.6	6737.9
13.5°	6676.2	6684.8	6676.2	6639.3	6615.4	6592.5
14°	6519.3	6518.8	6519.3	6478.6	6469.0	6446.1
14.5°	6360.4	6354.7	6360.4	6319.3	6312.1	6293.9
15°	6196.8	6189.6	6196.8	6159.5	6148.0	6136.5
15.5°	6033.7	6035.1	6033.7	6000.2	5974.8	5968.1
16°	5869.1	5876.3	5869.1	5839.4	5801.2	5796.9
16.5°	5706.0	5723.2	5706.0	5674.9	5629.4	5616.5
17°	5544.3	5566.3	5544.3	5507.4	5457.2	5441.9
17.5°	5376.8	5398.3	5376.8	5331.8	5286.4	5265.3
18°	5201.2	5219.9	5201.2	5152.4	5110.8	5095.5
18.5°	5013.7	5028.1	5013.7	4964.9	4932.9	4918.5
19°	4808.0	4822.8	4808.0	4771.6	4746.8	4737.2
19.5°	4595.1	4609.0	4595.1	4567.4	4548.7	4547.7
20°	4372.6	4365.5	4372.6	4357.3	4347.3	4347.3
20.5°	4146.8	4125.8	4146.8	4147.3	4143.0	4150.2
21°	3942.6	3935.9	3942.6	3924.9	3942.6	3947.3

TEST NUMBER: P776773

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRC-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	3469.9	3453.6	3469.9	3433.0	3402.4	3379.9
23°	3344.5	3345.0	3344.5	3294.3	3262.7	3247.4
23.5°	3215.9	3222.1	3215.9	3167.5	3147.4	3149.8
24°	3107.3	3110.1	3107.3	3068.0	3055.6	3045.1
24.5°	3005.8	3005.8	3005.8	2981.0	2970.0	2964.7
25°	2929.8	2928.8	2929.8	2906.8	2895.3	2888.6
25.5°	2854.7	2856.1	2854.7	2833.1	2821.2	2817.8
26°	2777.2	2779.5	2777.2	2760.9	2752.3	2749.4
26.5°	2710.7	2712.1	2710.7	2695.8	2685.8	2684.8
27°	2651.3	2656.1	2651.3	2632.7	2622.1	2619.3
27.5°	2589.6	2596.3	2589.6	2571.4	2561.4	2557.6
28°	2526.0	2532.2	2526.0	2512.6	2503.0	2499.2
28.5°	2466.7	2471.9	2466.7	2456.1	2447.1	2445.1
29°	2410.7	2416.4	2410.7	2401.6	2393.0	2391.6
29.5°	2358.5	2363.3	2358.5	2348.5	2341.3	2338.5
30°	2305.9	2310.7	2305.9	2296.4	2289.7	2286.8
30.5°	2254.7	2258.1	2254.7	2245.6	2238.9	2236.6
31°	2205.5	2210.2	2205.5	2195.9	2189.7	2187.3
31.5°	2157.6	2161.0	2157.6	2149.0	2142.3	2139.9
32°	2111.2	2114.6	2111.2	2102.6	2096.4	2094.5
32.5°	2065.3	2068.2	2065.3	2057.2	2052.8	2050.9
33°	2016.0	2018.9	2016.0	2012.2	2009.8	2008.8
33.5°	1962.4	1966.7	1962.4	1964.3	1965.3	1965.3
34°	1906.9	1916.5	1906.9	1913.2	1914.1	1916.0
34.5°	1850.0	1857.2	1850.0	1858.1	1858.6	1862.9
35°	1792.1	1796.9	1792.1	1799.8	1799.8	1805.5
35.5°	1730.9	1733.7	1730.9	1737.6	1740.4	1742.8
36°	1667.7	1668.2	1667.7	1671.6	1676.8	1677.8
36.5°	1600.8	1597.9	1600.8	1603.1	1610.8	1608.9
37°	1532.3	1528.5	1532.3	1533.8	1540.5	1534.7
37.5°	1461.1	1459.6	1461.1	1463.4	1465.4	1461.1
38°	1390.3	1388.8	1390.3	1388.3	1390.7	1387.4
38.5°	1313.2	1317.1	1313.2	1312.7	1311.8	1313.7
39°	1236.7	1244.3	1236.7	1236.7	1234.3	1238.6
39.5°	1163.5	1169.2	1163.5	1160.6	1157.3	1159.7
40°	1091.2	1095.6	1091.2	1086.9	1082.6	1080.7
40.5°	1021.9	1021.4	1021.9	1011.4	1007.0	1002.3
41°	950.1	948.2	950.1	937.7	931.5	926.2
41.5°	879.3	876.0	879.3	864.5	856.3	849.7
42°	809.5	807.1	809.5	794.6	783.6	776.9
42.5°	742.5	741.1	742.5	727.2	712.8	706.6
43°	678.9	677.4	678.9	661.6	646.8	638.7
43.5°	613.8	615.2	613.8	597.1	582.2	577.9



TEST NUMBER: P776773

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRC-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	437.3	443.5	437.3	422.0	405.7	403.8
45.5°	384.2	392.3	384.2	370.8	352.6	348.3
46°	337.8	346.4	337.8	322.4	302.8	299.5
46.5°	295.7	305.7	295.7	276.5	261.2	255.5
47°	255.5	265.0	255.5	233.9	222.0	215.3
47.5°	217.2	224.4	217.2	198.5	187.5	180.8
48°	182.3	183.7	182.3	165.5	157.9	149.7
48.5°	151.2	148.8	151.2	136.8	130.6	123.4
49°	124.4	120.6	124.4	111.0	106.7	102.4
49.5°	100.0	95.7	100.0	91.9	87.1	85.6
50°	81.3	76.5	81.3	73.7	68.4	68.9
50.5°	64.6	60.3	64.6	56.9	54.1	52.1
51°	51.7	47.8	51.7	46.4	41.1	40.2
51.5°	43.1	42.6	43.1	36.8	34.0	30.1
52°	34.0	37.3	34.0	31.1	28.2	26.3
52.5°	28.7	31.6	28.7	26.8	24.4	23.9
53°	24.9	26.3	24.9	23.0	23.0	22.5
53.5°	21.5	21.0	21.5	22.0	21.5	21.5
54°	20.6	20.1	20.6	20.6	20.6	20.6
54.5°	19.6	19.1	19.6	19.6	19.6	19.6
55°	18.7	18.2	18.7	18.7	18.7	18.7
55.5°	17.7	17.2	17.7	17.7	17.7	17.7
56°	16.7	16.3	16.7	16.7	16.7	16.7
56.5°	15.8	15.3	15.8	16.3	15.8	15.8
57°	14.8	14.8	14.8	15.3	14.8	14.8
57.5°	13.9	13.9	13.9	14.4	14.4	13.9
58°	13.4	12.9	13.4	13.4	13.4	13.4
58.5°	12.4	12.4	12.4	12.9	12.9	12.4
59°	12.0	11.5	12.0	12.0	12.0	12.0
59.5°	11.5	11.0	11.5	11.5	11.5	11.0
60°	10.5	10.5	10.5	11.0	10.5	10.5
60.5°	10.0	10.0	10.0	10.5	10.0	10.0
61°	9.6	9.6	9.6	9.6	9.6	9.6
61.5°	9.1	9.1	9.1	9.1	9.1	9.1
62°	8.6	8.6	8.6	8.6	8.6	8.6
62.5°	8.1	8.1	8.1	8.1	8.1	8.1
63°	7.7	7.7	7.7	7.7	7.7	7.7
63.5°	7.2	7.2	7.2	7.7	7.2	7.2
64°	7.2	6.7	7.2	7.2	6.7	6.7
64.5°	6.7	6.2	6.7	6.7	6.7	6.2
65°	6.2	6.2	6.2	6.2	6.2	6.2
65.5°	5.7	5.7	5.7	6.2	5.7	5.7
66°	5.7	5.7	5.7	5.7	5.7	5.3



TEST NUMBER: P776773

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRC-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	4.8	4.8	4.8	4.8	4.8	4.8
68°	4.8	4.3	4.8	4.8	4.3	4.3
68.5°	4.3	4.3	4.3	4.3	4.3	4.3
69°	4.3	3.8	4.3	4.3	3.8	3.8
69.5°	3.8	3.8	3.8	3.8	3.8	3.8
70°	3.8	3.8	3.8	3.8	3.3	3.3
70.5°	3.3	3.3	3.3	3.3	3.3	3.3
71°	3.3	3.3	3.3	3.3	3.3	3.3
71.5°	3.3	2.9	3.3	3.3	2.9	2.9
72°	2.9	2.9	2.9	2.9	2.9	2.9
72.5°	2.9	2.9	2.9	2.9	2.9	2.9
73°	2.9	2.4	2.9	2.4	2.4	2.4
73.5°	2.4	2.4	2.4	2.4	2.4	2.4
74°	2.4	2.4	2.4	2.4	2.4	2.4
74.5°	2.4	2.4	2.4	2.4	1.9	1.9
75°	1.9	1.9	1.9	1.9	1.9	1.9
75.5°	1.9	1.9	1.9	1.9	1.9	1.9
76°	1.9	1.9	1.9	1.9	1.9	1.9
76.5°	1.9	1.9	1.9	1.4	1.4	1.4
77°	1.4	1.4	1.4	1.4	1.4	1.4
77.5°	1.4	1.4	1.4	1.4	1.4	1.4
78°	1.4	1.4	1.4	1.4	1.4	1.4
78.5°	1.4	1.4	1.4	1.4	1.0	1.0
79°	1.4	1.0	1.4	1.0	1.0	1.0
79.5°	1.0	1.0	1.0	1.0	1.0	1.0
80°	1.0	1.0	1.0	1.0	1.0	1.0
80.5°	1.0	1.0	1.0	1.0	1.0	1.0
81°	1.0	1.0	1.0	1.0	1.0	1.0
81.5°	1.0	1.0	1.0	1.0	0.5	0.5
82°	0.5	0.5	0.5	0.5	0.5	0.5
82.5°	0.5	0.5	0.5	0.5	0.5	0.5
83°	0.5	0.5	0.5	0.5	0.5	0.5
83.5°	0.5	0.5	0.5	0.5	0.5	0.5
84°	0.5	0.5	0.5	0.5	0.5	0.5
84.5°	0.5	0.5	0.5	0.5	0.5	0.5
85°	0.5	0.5	0.5	0.5	0.0	0.0
85.5°	0.5	0.5	0.5	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: P776773

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRC-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
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





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

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Scaled Data Report



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Scaled Data Report





21.5°	3740.7	3738.3	3745.0	3766.0	3763.2	3766.0	3745.0	3738.3	3740.7	3738.3	3745.0
22°	3530.6	3564.1	3579.9	3607.7	3604.3	3607.7	3579.9	3564.1	3530.6	3564.1	3579.9



44°	518.1	521.9	535.3	552.1	554.0	552.1	535.3	521.9	518.1	521.9	535.3
44.5°	460.2	462.6	475.5	492.8	497.5	492.8	475.5	462.6	460.2	462.6	475.5



66.5°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
67°	4.8	4.8	5.3	5.3	4.8	5.3	5.3	4.8	4.8	4.8	5.3



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°	3766.0	3763.2	3766.0	3745.0	3738.3	3740.7
22°	3607.7	3604.3	3607.7	3579.9	3564.1	3530.6



44°	552.1	554.0	552.1	535.3	521.9	518.1
44.5°	492.8	497.5	492.8	475.5	462.6	460.2

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66.5°	5.3	5.3	5.3	5.3	5.3	5.3
67°	5.3	4.8	5.3	5.3	4.8	4.8

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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)