

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: P776775

Luminaire Tested: HCDJBS4050CSD-HCD82TRH-5000lm-2700K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776775
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B063-HCD82TRH)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD82TRH-5000lm-2700K
Description: 8 INCH ROUND NARROW HAZE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT
Ballast/Driver: -

Summary

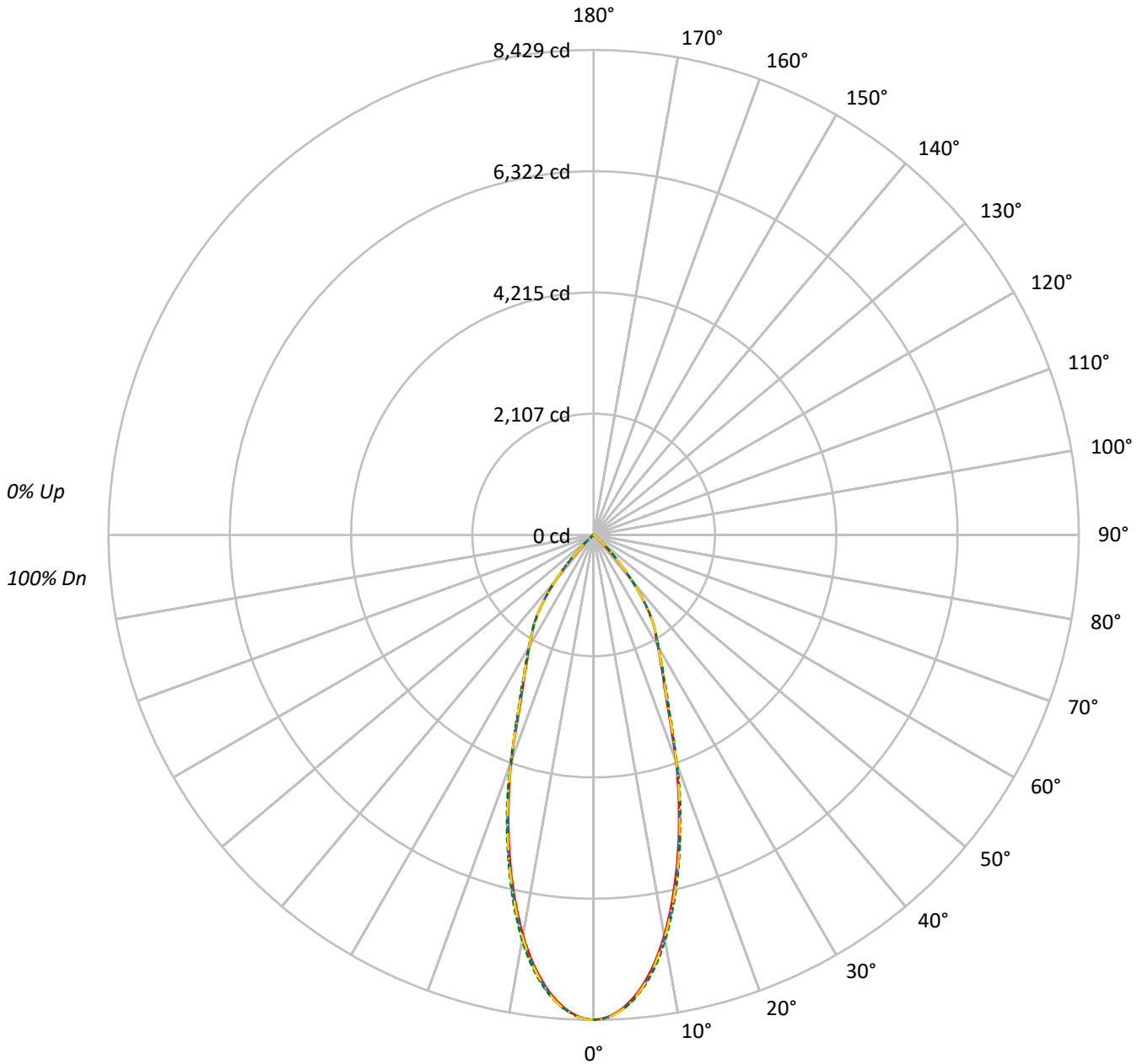
Lumens per Lamp: N/A
Luminaire Lumens: 5077.0 lumens
Efficiency: N/A
Efficacy: 105.8 lumens/watt
Spacing Criteria (0/90/45): 0.64 / 0.65 / 0.67
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

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									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	93	89	101	96	92	88	93	90	87	91	88	85	89	86	84	82																			
4	98	91	86	82	97	90	85	82	88	84	81	86	82	80	84	81	79	77																			
5	94	86	80	76	92	85	80	76	83	79	75	82	78	75	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	74	65	60	56	73	65	60	56	64	59	56	63	59	56	63	58	56	54																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	257343	257343	257343	257343
5°	247026	248157	247026	248157
10°	219042	221783	219042	221783
15°	179020	181916	179020	181916
20°	135810	137512	135810	137512
25°	97923	100578	97923	100578
30°	78559	79761	78559	79761
35°	64303	63759	64303	63759
40°	40337	41190	40337	41190
45°	15366	17828	15366	17828
50°	2294	3225	2294	3225
55°	484	511	484	511
60°	305	305	305	305
65°	195	195	195	195
70°	125	161	125	161
75°	106	106	106	106
80°	88	88	88	88
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 17828 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	740.3	14.6
10°-20°	1570.7	30.9
20°-30°	1379.4	27.2
30°-40°	1041.7	20.5
40°-50°	328.3	6.5
50°-60°	12.6	0.2
60°-70°	3.0	0.1
70°-80°	1.0	0.0
80°-90°	0.1	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°	3690.4	72.7
0°-40°	4732.1	93.2
0°-60°	5072.9	99.9
0°-90°	5077.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5077.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	8429	8429	8429	8429	8429	
5°	8060	8097	8060	8097	8060	737
15°	5664	5756	5664	5756	5664	1558
25°	2907	2986	2907	2986	2907	1366
35°	1725	1711	1725	1711	1725	1040
45°	356	413	356	413	356	310
55°	9	10	9	10	9	11
65°	3	3	3	3	3	3
75°	1	1	1	1	1	1
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°	8429.1	8429.1	8429.1	8429.1	8429.1	8429.1	8429.1	8429.1	8429.1	8429.1	8429.1
0.5°	8421.3	8423.1	8427.7	8429.5	8421.3	8429.5	8427.7	8423.1	8421.3	8423.1	8427.7
1°	8409.9	8412.2	8416.8	8420.0	8411.8	8420.0	8416.8	8412.2	8409.9	8412.2	8416.8
1.5°	8390.8	8393.5	8399.5	8403.1	8394.9	8403.1	8399.5	8393.5	8390.8	8393.5	8399.5
2°	8365.3	8367.6	8375.3	8379.9	8372.1	8379.9	8375.3	8367.6	8365.3	8367.6	8375.3
2.5°	8330.2	8334.7	8343.9	8349.3	8342.0	8349.3	8343.9	8334.7	8330.2	8334.7	8343.9
3°	8290.5	8295.1	8306.0	8312.9	8306.0	8312.9	8306.0	8295.1	8290.5	8295.1	8306.0
3.5°	8243.1	8248.6	8260.9	8269.6	8264.6	8269.6	8260.9	8248.6	8243.1	8248.6	8260.9
4°	8188.0	8194.8	8209.4	8219.9	8215.4	8219.9	8209.4	8194.8	8188.0	8194.8	8209.4
4.5°	8127.4	8133.8	8151.1	8163.9	8159.3	8163.9	8151.1	8133.8	8127.4	8133.8	8151.1
5°	8060.4	8067.2	8086.4	8101.4	8097.3	8101.4	8086.4	8067.2	8060.4	8067.2	8086.4
5.5°	7986.6	7993.9	8013.9	8031.2	8029.4	8031.2	8013.9	7993.9	7986.6	7993.9	8013.9
6°	7905.9	7913.7	7935.6	7955.6	7956.1	7955.6	7935.6	7913.7	7905.9	7913.7	7935.6
6.5°	7821.6	7828.0	7852.2	7874.5	7875.9	7874.5	7852.2	7828.0	7821.6	7828.0	7852.2
7°	7729.6	7736.9	7761.9	7787.0	7792.0	7787.0	7761.9	7736.9	7729.6	7736.9	7761.9
7.5°	7633.0	7638.9	7664.9	7691.3	7698.6	7691.3	7664.9	7638.9	7633.0	7638.9	7664.9
8°	7529.1	7535.9	7563.2	7592.0	7601.1	7592.0	7563.2	7535.9	7529.1	7535.9	7563.2
8.5°	7421.5	7427.4	7454.8	7487.1	7497.6	7487.1	7454.8	7427.4	7421.5	7427.4	7454.8
9°	7306.2	7314.0	7342.7	7377.3	7389.2	7377.3	7342.7	7314.0	7306.2	7314.0	7342.7
9.5°	7188.7	7196.9	7224.2	7260.7	7274.3	7260.7	7224.2	7196.9	7188.7	7196.9	7224.2
10°	7065.6	7074.7	7103.0	7142.6	7154.0	7142.6	7103.0	7074.7	7065.6	7074.7	7103.0
10.5°	6938.5	6947.6	6976.8	7018.7	7029.6	7018.7	6976.8	6947.6	6938.5	6947.6	6976.8
11°	6802.7	6817.3	6846.9	6890.6	6900.2	6890.6	6846.9	6817.3	6802.7	6817.3	6846.9
11.5°	6671.9	6683.7	6713.4	6755.7	6767.1	6755.7	6713.4	6683.7	6671.9	6683.7	6713.4
12°	6532.9	6547.0	6577.6	6620.4	6630.9	6620.4	6577.6	6547.0	6532.9	6547.0	6577.6
12.5°	6393.5	6408.0	6439.0	6479.6	6488.7	6479.6	6439.0	6408.0	6393.5	6408.0	6439.0
13°	6250.4	6266.8	6300.0	6340.6	6347.9	6340.6	6300.0	6266.8	6250.4	6266.8	6300.0
13.5°	6107.3	6123.7	6158.3	6193.9	6204.3	6193.9	6158.3	6123.7	6107.3	6123.7	6158.3
14°	5960.5	5978.3	6013.4	6045.8	6057.2	6045.8	6013.4	5978.3	5960.5	5978.3	6013.4
14.5°	5812.4	5830.7	5866.2	5896.8	5906.3	5896.8	5866.2	5830.7	5812.4	5830.7	5866.2
15°	5663.9	5682.6	5717.7	5748.6	5755.5	5748.6	5717.7	5682.6	5663.9	5682.6	5717.7
15.5°	5514.9	5533.1	5568.2	5597.8	5608.3	5597.8	5568.2	5533.1	5514.9	5533.1	5568.2
16°	5366.8	5382.7	5417.8	5447.4	5459.7	5447.4	5417.8	5382.7	5366.8	5382.7	5417.8
16.5°	5220.5	5234.2	5269.3	5298.0	5311.2	5298.0	5269.3	5234.2	5220.5	5234.2	5269.3
17°	5070.1	5085.2	5117.0	5150.8	5160.8	5150.8	5117.0	5085.2	5070.1	5085.2	5117.0
17.5°	4920.2	4935.2	4967.1	5001.3	5013.2	5001.3	4967.1	4935.2	4920.2	4935.2	4967.1
18°	4773.0	4784.4	4818.6	4851.8	4863.7	4851.8	4818.6	4784.4	4773.0	4784.4	4818.6
18.5°	4625.8	4637.2	4667.7	4700.1	4712.8	4700.1	4667.7	4637.2	4625.8	4637.2	4667.7
19°	4478.2	4489.1	4519.2	4546.5	4561.1	4546.5	4519.2	4489.1	4478.2	4489.1	4519.2
19.5°	4330.5	4342.4	4367.0	4390.2	4401.6	4390.2	4367.0	4342.4	4330.5	4342.4	4367.0
20°	4180.1	4190.2	4209.8	4232.1	4232.5	4232.1	4209.8	4190.2	4180.1	4190.2	4209.8
20.5°	4027.9	4034.3	4055.3	4076.2	4073.5	4076.2	4055.3	4034.3	4027.9	4034.3	4055.3
21°	3872.5	3883.0	3903.1	3923.6	3923.1	3923.6	3903.1	3883.0	3872.5	3883.0	3903.1



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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°	3440.5	3453.3	3471.5	3504.8	3519.4	3504.8	3471.5	3453.3	3440.5	3453.3	3471.5
23°	3316.1	3325.7	3347.6	3375.8	3392.2	3375.8	3347.6	3325.7	3316.1	3325.7	3347.6
23.5°	3193.1	3216.8	3234.1	3257.3	3273.3	3257.3	3234.1	3216.8	3193.1	3216.8	3234.1
24°	3096.5	3105.6	3129.7	3154.8	3175.8	3154.8	3129.7	3105.6	3096.5	3105.6	3129.7
24.5°	2996.7	3007.6	3031.3	3056.4	3081.4	3056.4	3031.3	3007.6	2996.7	3007.6	3031.3
25°	2906.9	2918.3	2940.6	2962.0	2985.7	2962.0	2940.6	2918.3	2906.9	2918.3	2940.6
25.5°	2829.9	2834.9	2853.1	2871.4	2891.9	2871.4	2853.1	2834.9	2829.9	2834.9	2853.1
26°	2753.8	2758.3	2770.2	2787.5	2799.8	2787.5	2770.2	2758.3	2753.8	2758.3	2770.2
26.5°	2675.0	2681.8	2695.9	2711.0	2718.7	2711.0	2695.9	2681.8	2675.0	2681.8	2695.9
27°	2598.9	2607.1	2625.3	2641.7	2649.4	2641.7	2625.3	2607.1	2598.9	2607.1	2625.3
27.5°	2529.1	2536.9	2554.7	2572.0	2582.9	2572.0	2554.7	2536.9	2529.1	2536.9	2554.7
28°	2464.9	2471.3	2485.8	2501.8	2510.9	2501.8	2485.8	2471.3	2464.9	2471.3	2485.8
28.5°	2403.8	2409.3	2421.6	2434.8	2444.8	2434.8	2421.6	2409.3	2403.8	2409.3	2421.6
29°	2344.6	2349.1	2361.0	2373.7	2380.1	2373.7	2361.0	2349.1	2344.6	2349.1	2361.0
29.5°	2285.3	2290.3	2302.2	2314.0	2320.0	2314.0	2302.2	2290.3	2285.3	2290.3	2302.2
30°	2228.4	2232.9	2244.3	2255.7	2262.5	2255.7	2244.3	2232.9	2228.4	2232.9	2244.3
30.5°	2173.2	2176.9	2188.7	2200.1	2207.0	2200.1	2188.7	2176.9	2173.2	2176.9	2188.7
31°	2119.0	2124.9	2135.4	2147.3	2153.2	2147.3	2135.4	2124.9	2119.0	2124.9	2135.4
31.5°	2069.3	2073.0	2084.4	2095.3	2102.6	2095.3	2084.4	2073.0	2069.3	2073.0	2084.4
32°	2020.1	2024.7	2035.2	2045.6	2052.0	2045.6	2035.2	2024.7	2020.1	2024.7	2035.2
32.5°	1974.5	1979.1	1988.7	1996.0	1999.6	1996.0	1988.7	1979.1	1974.5	1979.1	1988.7
33°	1932.2	1934.4	1940.4	1944.0	1943.6	1944.0	1940.4	1934.4	1932.2	1934.4	1940.4
33.5°	1888.4	1888.0	1888.4	1888.4	1887.5	1888.4	1888.4	1888.0	1888.4	1888.0	1888.4
34°	1839.7	1836.5	1832.8	1837.8	1827.8	1837.8	1832.8	1836.5	1839.7	1836.5	1832.8
34.5°	1783.6	1782.7	1781.8	1778.1	1769.0	1778.1	1781.8	1782.7	1783.6	1782.7	1781.8
35°	1725.3	1721.2	1721.2	1717.5	1710.7	1717.5	1721.2	1721.2	1725.3	1721.2	1721.2
35.5°	1665.1	1660.1	1660.1	1653.7	1649.6	1653.7	1660.1	1660.1	1665.1	1660.1	1660.1
36°	1599.0	1596.3	1597.7	1587.2	1586.3	1587.2	1597.7	1596.3	1599.0	1596.3	1597.7
36.5°	1530.7	1530.2	1530.2	1520.2	1518.4	1520.2	1530.2	1530.2	1530.7	1530.2	1530.2
37°	1460.1	1460.1	1460.5	1452.8	1449.6	1452.8	1460.5	1460.1	1460.1	1460.1	1460.5
37.5°	1389.4	1388.1	1394.0	1384.4	1382.1	1384.4	1394.0	1388.1	1389.4	1388.1	1394.0
38°	1317.4	1314.2	1316.1	1313.3	1313.8	1313.3	1316.1	1314.2	1317.4	1314.2	1316.1
38.5°	1242.2	1239.5	1238.6	1242.7	1244.1	1242.7	1238.6	1239.5	1242.2	1239.5	1238.6
39°	1166.1	1164.8	1162.5	1171.6	1172.1	1171.6	1162.5	1164.8	1166.1	1164.8	1162.5
39.5°	1088.7	1088.7	1088.7	1100.1	1102.8	1100.1	1088.7	1088.7	1088.7	1088.7	1088.7
40°	1012.1	1014.4	1018.9	1029.0	1033.5	1029.0	1018.9	1014.4	1012.1	1014.4	1018.9
40.5°	936.9	939.7	949.7	957.4	965.6	957.4	949.7	939.7	936.9	939.7	949.7
41°	862.6	866.7	880.0	888.2	896.8	888.2	880.0	866.7	862.6	866.7	880.0
41.5°	788.4	795.2	810.7	819.8	829.8	819.8	810.7	795.2	788.4	795.2	810.7
42°	717.3	725.0	743.2	753.7	763.3	753.7	743.2	725.0	717.3	725.0	743.2
42.5°	648.5	657.1	677.6	691.3	700.0	691.3	677.6	657.1	648.5	657.1	677.6
43°	581.5	593.8	614.7	630.2	637.5	630.2	614.7	593.8	581.5	593.8	614.7
43.5°	518.6	533.2	553.7	570.5	576.9	570.5	553.7	533.2	518.6	533.2	553.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	355.9	363.6	382.3	404.7	412.9	404.7	382.3	363.6	355.9	363.6	382.3
45.5°	306.7	314.4	333.1	355.4	364.6	355.4	333.1	314.4	306.7	314.4	333.1
46°	259.3	268.9	288.0	310.8	325.4	310.8	288.0	268.9	259.3	268.9	288.0
46.5°	219.2	226.5	248.4	269.8	286.2	269.8	248.4	226.5	219.2	226.5	248.4
47°	183.6	191.8	211.0	230.6	247.0	230.6	211.0	191.8	183.6	191.8	211.0
47.5°	152.2	159.0	175.4	192.3	207.8	192.3	175.4	159.0	152.2	159.0	175.4
48°	126.2	130.3	144.0	157.7	168.6	157.7	144.0	130.3	126.2	130.3	144.0
48.5°	102.1	107.1	116.2	128.5	138.1	128.5	116.2	107.1	102.1	107.1	116.2
49°	79.7	85.2	94.8	102.5	110.7	102.5	94.8	85.2	79.7	85.2	94.8
49.5°	62.4	66.5	74.7	82.0	88.0	82.0	74.7	66.5	62.4	66.5	74.7
50°	48.3	51.0	57.0	63.3	67.9	63.3	57.0	51.0	48.3	51.0	57.0
50.5°	36.0	36.5	43.3	49.7	52.9	49.7	43.3	36.5	36.0	36.5	43.3
51°	25.1	26.9	32.4	39.2	44.7	39.2	32.4	26.9	25.1	26.9	32.4
51.5°	16.4	20.1	25.1	29.6	36.9	29.6	25.1	20.1	16.4	20.1	25.1
52°	14.1	15.0	18.7	22.8	28.7	22.8	18.7	15.0	14.1	15.0	18.7
52.5°	12.8	13.2	13.7	17.3	21.0	17.3	13.7	13.2	12.8	13.2	13.7
53°	11.8	12.3	12.3	13.2	13.2	13.2	12.3	12.3	11.8	12.3	12.3
53.5°	10.9	11.4	11.8	11.8	11.4	11.8	11.8	11.4	10.9	11.4	11.8
54°	10.5	10.5	10.9	10.9	10.5	10.9	10.9	10.5	10.5	10.5	10.9
54.5°	9.6	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.6	10.0	10.0
55°	9.1	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.1	9.6	9.6
55.5°	8.7	8.7	9.1	9.1	9.1	9.1	9.1	8.7	8.7	8.7	9.1
56°	8.2	8.2	8.7	8.7	8.7	8.7	8.7	8.2	8.2	8.2	8.7
56.5°	7.7	7.7	8.2	8.2	7.7	8.2	8.2	7.7	7.7	7.7	8.2
57°	7.3	7.3	7.7	7.7	7.3	7.7	7.7	7.3	7.3	7.3	7.7
57.5°	6.8	6.8	7.3	7.3	7.3	7.3	7.3	6.8	6.8	6.8	7.3
58°	6.4	6.4	6.8	6.8	6.8	6.8	6.8	6.4	6.4	6.4	6.8
58.5°	5.9	5.9	6.4	6.4	6.4	6.4	6.4	5.9	5.9	5.9	6.4
59°	5.5	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.5	5.9	5.9
59.5°	5.0	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.0	5.5	5.5
60°	5.0	5.0	5.5	5.5	5.0	5.5	5.5	5.0	5.0	5.0	5.5
60.5°	4.6	4.6	5.0	5.0	5.0	5.0	5.0	4.6	4.6	4.6	5.0
61°	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
61.5°	4.1	4.1	4.6	4.6	4.6	4.6	4.6	4.1	4.1	4.1	4.6
62°	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
62.5°	3.6	3.6	4.1	4.1	4.1	4.1	4.1	3.6	3.6	3.6	4.1
63°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
63.5°	3.2	3.2	3.6	3.6	3.6	3.6	3.6	3.2	3.2	3.2	3.6
64°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
64.5°	2.7	3.2	3.2	3.2	3.2	3.2	3.2	3.2	2.7	3.2	3.2
65°	2.7	2.7	3.2	3.2	2.7	3.2	3.2	2.7	2.7	2.7	3.2
65.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
66°	2.3	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.3	2.7	2.7



TEST NUMBER: P776775

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
68°	1.8	1.8	2.3	2.3	2.3	2.3	2.3	1.8	1.8	1.8	2.3
68.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
69°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
69.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
70°	1.4	1.4	1.8	1.8	1.8	1.8	1.8	1.4	1.4	1.4	1.8
70.5°	1.4	1.4	1.4	1.8	1.4	1.8	1.4	1.4	1.4	1.4	1.4
71°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
71.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
72°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
72.5°	0.9	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.9	1.4	1.4
73°	0.9	0.9	1.4	1.4	1.4	1.4	1.4	0.9	0.9	0.9	1.4
73.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
74°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
74.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
75°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
75.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
76°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
76.5°	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.9
77°	0.5	0.5	0.5	0.9	0.9	0.9	0.5	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
78°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
78.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
79°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
79.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80.5°	0.5	0.5	0.5	0.5	0.5	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	0.5	0.5	0.5	0.5	0.5
81.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
82°	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.5	0.5
82.5°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.5
83°	0.0	0.0	0.0	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	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	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: P776775

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-5000lm-2700K

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: P776775

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	8429.1	8429.1	8429.1	8429.1	8429.1	8429.1
0.5°	8429.5	8421.3	8429.5	8427.7	8423.1	8421.3
1°	8420.0	8411.8	8420.0	8416.8	8412.2	8409.9
1.5°	8403.1	8394.9	8403.1	8399.5	8393.5	8390.8
2°	8379.9	8372.1	8379.9	8375.3	8367.6	8365.3
2.5°	8349.3	8342.0	8349.3	8343.9	8334.7	8330.2
3°	8312.9	8306.0	8312.9	8306.0	8295.1	8290.5
3.5°	8269.6	8264.6	8269.6	8260.9	8248.6	8243.1
4°	8219.9	8215.4	8219.9	8209.4	8194.8	8188.0
4.5°	8163.9	8159.3	8163.9	8151.1	8133.8	8127.4
5°	8101.4	8097.3	8101.4	8086.4	8067.2	8060.4
5.5°	8031.2	8029.4	8031.2	8013.9	7993.9	7986.6
6°	7955.6	7956.1	7955.6	7935.6	7913.7	7905.9
6.5°	7874.5	7875.9	7874.5	7852.2	7828.0	7821.6
7°	7787.0	7792.0	7787.0	7761.9	7736.9	7729.6
7.5°	7691.3	7698.6	7691.3	7664.9	7638.9	7633.0
8°	7592.0	7601.1	7592.0	7563.2	7535.9	7529.1
8.5°	7487.1	7497.6	7487.1	7454.8	7427.4	7421.5
9°	7377.3	7389.2	7377.3	7342.7	7314.0	7306.2
9.5°	7260.7	7274.3	7260.7	7224.2	7196.9	7188.7
10°	7142.6	7154.0	7142.6	7103.0	7074.7	7065.6
10.5°	7018.7	7029.6	7018.7	6976.8	6947.6	6938.5
11°	6890.6	6900.2	6890.6	6846.9	6817.3	6802.7
11.5°	6755.7	6767.1	6755.7	6713.4	6683.7	6671.9
12°	6620.4	6630.9	6620.4	6577.6	6547.0	6532.9
12.5°	6479.6	6488.7	6479.6	6439.0	6408.0	6393.5
13°	6340.6	6347.9	6340.6	6300.0	6266.8	6250.4
13.5°	6193.9	6204.3	6193.9	6158.3	6123.7	6107.3
14°	6045.8	6057.2	6045.8	6013.4	5978.3	5960.5
14.5°	5896.8	5906.3	5896.8	5866.2	5830.7	5812.4
15°	5748.6	5755.5	5748.6	5717.7	5682.6	5663.9
15.5°	5597.8	5608.3	5597.8	5568.2	5533.1	5514.9
16°	5447.4	5459.7	5447.4	5417.8	5382.7	5366.8
16.5°	5298.0	5311.2	5298.0	5269.3	5234.2	5220.5
17°	5150.8	5160.8	5150.8	5117.0	5085.2	5070.1
17.5°	5001.3	5013.2	5001.3	4967.1	4935.2	4920.2
18°	4851.8	4863.7	4851.8	4818.6	4784.4	4773.0
18.5°	4700.1	4712.8	4700.1	4667.7	4637.2	4625.8
19°	4546.5	4561.1	4546.5	4519.2	4489.1	4478.2
19.5°	4390.2	4401.6	4390.2	4367.0	4342.4	4330.5
20°	4232.1	4232.5	4232.1	4209.8	4190.2	4180.1
20.5°	4076.2	4073.5	4076.2	4055.3	4034.3	4027.9
21°	3923.6	3923.1	3923.6	3903.1	3883.0	3872.5



TEST NUMBER: P776775

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	3504.8	3519.4	3504.8	3471.5	3453.3	3440.5
23°	3375.8	3392.2	3375.8	3347.6	3325.7	3316.1
23.5°	3257.3	3273.3	3257.3	3234.1	3216.8	3193.1
24°	3154.8	3175.8	3154.8	3129.7	3105.6	3096.5
24.5°	3056.4	3081.4	3056.4	3031.3	3007.6	2996.7
25°	2962.0	2985.7	2962.0	2940.6	2918.3	2906.9
25.5°	2871.4	2891.9	2871.4	2853.1	2834.9	2829.9
26°	2787.5	2799.8	2787.5	2770.2	2758.3	2753.8
26.5°	2711.0	2718.7	2711.0	2695.9	2681.8	2675.0
27°	2641.7	2649.4	2641.7	2625.3	2607.1	2598.9
27.5°	2572.0	2582.9	2572.0	2554.7	2536.9	2529.1
28°	2501.8	2510.9	2501.8	2485.8	2471.3	2464.9
28.5°	2434.8	2444.8	2434.8	2421.6	2409.3	2403.8
29°	2373.7	2380.1	2373.7	2361.0	2349.1	2344.6
29.5°	2314.0	2320.0	2314.0	2302.2	2290.3	2285.3
30°	2255.7	2262.5	2255.7	2244.3	2232.9	2228.4
30.5°	2200.1	2207.0	2200.1	2188.7	2176.9	2173.2
31°	2147.3	2153.2	2147.3	2135.4	2124.9	2119.0
31.5°	2095.3	2102.6	2095.3	2084.4	2073.0	2069.3
32°	2045.6	2052.0	2045.6	2035.2	2024.7	2020.1
32.5°	1996.0	1999.6	1996.0	1988.7	1979.1	1974.5
33°	1944.0	1943.6	1944.0	1940.4	1934.4	1932.2
33.5°	1888.4	1887.5	1888.4	1888.4	1888.0	1888.4
34°	1837.8	1827.8	1837.8	1832.8	1836.5	1839.7
34.5°	1778.1	1769.0	1778.1	1781.8	1782.7	1783.6
35°	1717.5	1710.7	1717.5	1721.2	1721.2	1725.3
35.5°	1653.7	1649.6	1653.7	1660.1	1660.1	1665.1
36°	1587.2	1586.3	1587.2	1597.7	1596.3	1599.0
36.5°	1520.2	1518.4	1520.2	1530.2	1530.2	1530.7
37°	1452.8	1449.6	1452.8	1460.5	1460.1	1460.1
37.5°	1384.4	1382.1	1384.4	1394.0	1388.1	1389.4
38°	1313.3	1313.8	1313.3	1316.1	1314.2	1317.4
38.5°	1242.7	1244.1	1242.7	1238.6	1239.5	1242.2
39°	1171.6	1172.1	1171.6	1162.5	1164.8	1166.1
39.5°	1100.1	1102.8	1100.1	1088.7	1088.7	1088.7
40°	1029.0	1033.5	1029.0	1018.9	1014.4	1012.1
40.5°	957.4	965.6	957.4	949.7	939.7	936.9
41°	888.2	896.8	888.2	880.0	866.7	862.6
41.5°	819.8	829.8	819.8	810.7	795.2	788.4
42°	753.7	763.3	753.7	743.2	725.0	717.3
42.5°	691.3	700.0	691.3	677.6	657.1	648.5
43°	630.2	637.5	630.2	614.7	593.8	581.5
43.5°	570.5	576.9	570.5	553.7	533.2	518.6



TEST NUMBER: P776775

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	404.7	412.9	404.7	382.3	363.6	355.9
45.5°	355.4	364.6	355.4	333.1	314.4	306.7
46°	310.8	325.4	310.8	288.0	268.9	259.3
46.5°	269.8	286.2	269.8	248.4	226.5	219.2
47°	230.6	247.0	230.6	211.0	191.8	183.6
47.5°	192.3	207.8	192.3	175.4	159.0	152.2
48°	157.7	168.6	157.7	144.0	130.3	126.2
48.5°	128.5	138.1	128.5	116.2	107.1	102.1
49°	102.5	110.7	102.5	94.8	85.2	79.7
49.5°	82.0	88.0	82.0	74.7	66.5	62.4
50°	63.3	67.9	63.3	57.0	51.0	48.3
50.5°	49.7	52.9	49.7	43.3	36.5	36.0
51°	39.2	44.7	39.2	32.4	26.9	25.1
51.5°	29.6	36.9	29.6	25.1	20.1	16.4
52°	22.8	28.7	22.8	18.7	15.0	14.1
52.5°	17.3	21.0	17.3	13.7	13.2	12.8
53°	13.2	13.2	13.2	12.3	12.3	11.8
53.5°	11.8	11.4	11.8	11.8	11.4	10.9
54°	10.9	10.5	10.9	10.9	10.5	10.5
54.5°	10.0	10.0	10.0	10.0	10.0	9.6
55°	9.6	9.6	9.6	9.6	9.6	9.1
55.5°	9.1	9.1	9.1	9.1	8.7	8.7
56°	8.7	8.7	8.7	8.7	8.2	8.2
56.5°	8.2	7.7	8.2	8.2	7.7	7.7
57°	7.7	7.3	7.7	7.7	7.3	7.3
57.5°	7.3	7.3	7.3	7.3	6.8	6.8
58°	6.8	6.8	6.8	6.8	6.4	6.4
58.5°	6.4	6.4	6.4	6.4	5.9	5.9
59°	5.9	5.9	5.9	5.9	5.9	5.5
59.5°	5.5	5.5	5.5	5.5	5.5	5.0
60°	5.5	5.0	5.5	5.5	5.0	5.0
60.5°	5.0	5.0	5.0	5.0	4.6	4.6
61°	4.6	4.6	4.6	4.6	4.6	4.6
61.5°	4.6	4.6	4.6	4.6	4.1	4.1
62°	4.1	4.1	4.1	4.1	4.1	4.1
62.5°	4.1	4.1	4.1	4.1	3.6	3.6
63°	3.6	3.6	3.6	3.6	3.6	3.6
63.5°	3.6	3.6	3.6	3.6	3.2	3.2
64°	3.2	3.2	3.2	3.2	3.2	3.2
64.5°	3.2	3.2	3.2	3.2	3.2	2.7
65°	3.2	2.7	3.2	3.2	2.7	2.7
65.5°	2.7	2.7	2.7	2.7	2.7	2.7
66°	2.7	2.7	2.7	2.7	2.7	2.3



TEST NUMBER: P776775

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	2.3	2.3	2.3	2.3	2.3	2.3
68°	2.3	2.3	2.3	2.3	1.8	1.8
68.5°	1.8	1.8	1.8	1.8	1.8	1.8
69°	1.8	1.8	1.8	1.8	1.8	1.8
69.5°	1.8	1.8	1.8	1.8	1.8	1.8
70°	1.8	1.8	1.8	1.8	1.4	1.4
70.5°	1.8	1.4	1.8	1.4	1.4	1.4
71°	1.4	1.4	1.4	1.4	1.4	1.4
71.5°	1.4	1.4	1.4	1.4	1.4	1.4
72°	1.4	1.4	1.4	1.4	1.4	1.4
72.5°	1.4	1.4	1.4	1.4	1.4	0.9
73°	1.4	1.4	1.4	1.4	0.9	0.9
73.5°	0.9	0.9	0.9	0.9	0.9	0.9
74°	0.9	0.9	0.9	0.9	0.9	0.9
74.5°	0.9	0.9	0.9	0.9	0.9	0.9
75°	0.9	0.9	0.9	0.9	0.9	0.9
75.5°	0.9	0.9	0.9	0.9	0.9	0.9
76°	0.9	0.9	0.9	0.9	0.9	0.9
76.5°	0.9	0.9	0.9	0.9	0.5	0.5
77°	0.9	0.9	0.9	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5
78°	0.5	0.5	0.5	0.5	0.5	0.5
78.5°	0.5	0.5	0.5	0.5	0.5	0.5
79°	0.5	0.5	0.5	0.5	0.5	0.5
79.5°	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.5	0.5	0.5	0.5
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	0.0
82.5°	0.5	0.5	0.5	0.5	0.0	0.0
83°	0.5	0.5	0.5	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0
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: P776775

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-5000lm-2700K

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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Peachtree City, GA 30269

Scaled Data Report



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Peachtree City, GA 30269

Scaled Data Report





21.5°	3711.7	3734.0	3756.3	3777.3	3782.8	3777.3	3756.3	3734.0	3711.7	3734.0	3756.3
22°	3571.8	3586.4	3612.3	3633.7	3644.7	3633.7	3612.3	3586.4	3571.8	3586.4	3612.3



44°	461.6	474.4	494.9	512.2	519.0	512.2	494.9	474.4	461.6	474.4	494.9
44.5°	407.9	417.9	437.0	455.7	463.9	455.7	437.0	417.9	407.9	417.9	437.0



66.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
67°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3



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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Scaled Data Report





21.5°	3777.3	3782.8	3777.3	3756.3	3734.0	3711.7
22°	3633.7	3644.7	3633.7	3612.3	3586.4	3571.8



44°	512.2	519.0	512.2	494.9	474.4	461.6
44.5°	455.7	463.9	455.7	437.0	417.9	407.9

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Scaled Data Report



66.5°	2.3	2.3	2.3	2.3	2.3	2.3
67°	2.3	2.3	2.3	2.3	2.3	2.3

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Scaled Data Report



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)