

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: P776461

Luminaire Tested: HCDJBL3040CSD-HCD82TRC-4000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776461
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: HCDJBL3040CSD-HCD82TRC-4000lm-3000K
Description: 8 INCH ROUND NARROW SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

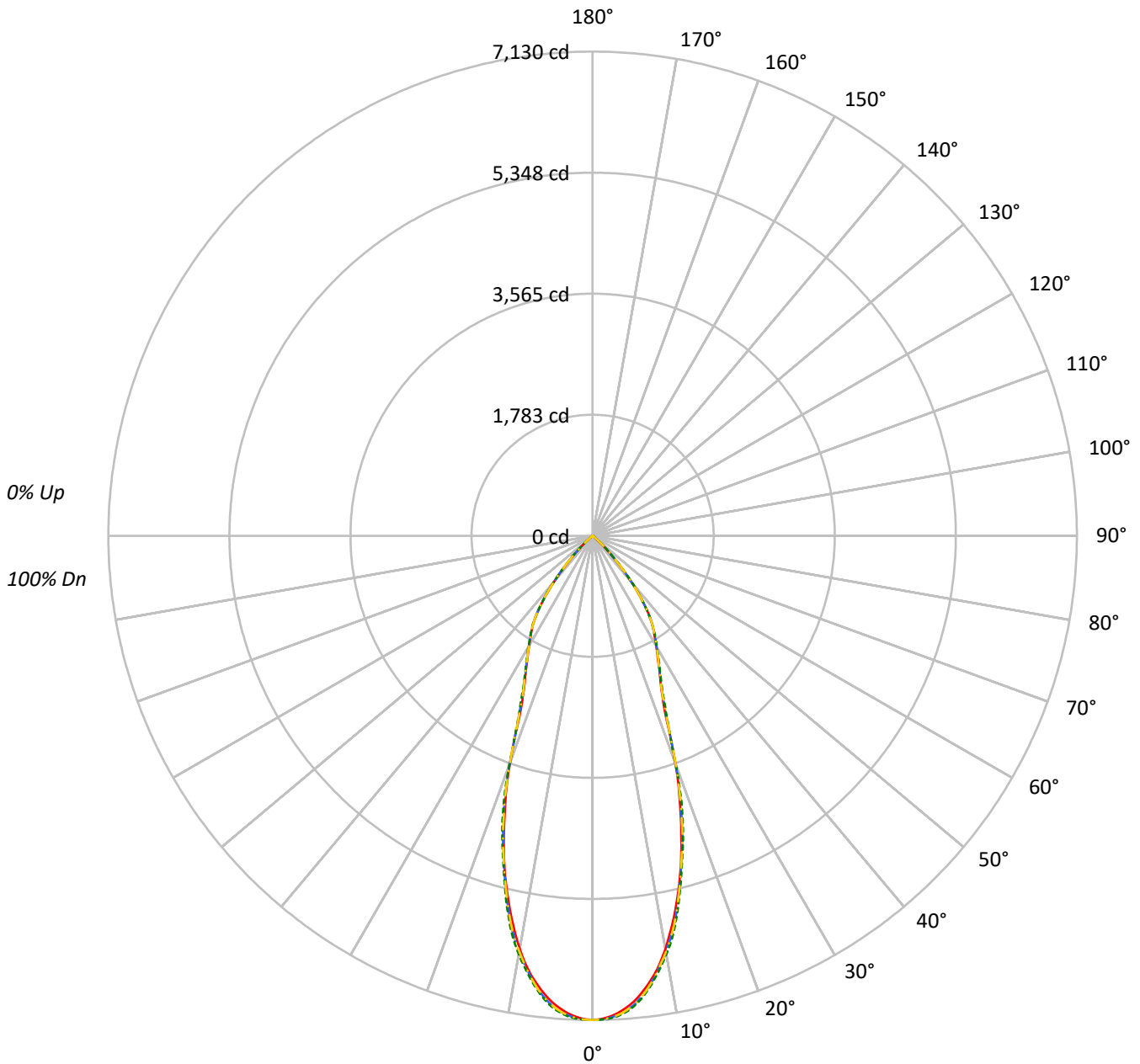
Lumens per Lamp: N/A
Luminaire Lumens: 4353.9 lumens
Efficiency: N/A
Efficacy: 113.1 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 0.66 / 0.66
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

Input Watts (W): 38.5
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	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°	217635	217635	217635	217635
5°	211136	213272	211136	213272
10°	191436	194009	191436	194009
15°	158735	160110	158735	160110
20°	115592	116076	115592	116076
25°	79635	80743	79635	80743
30°	65977	66668	65977	66668
35°	55071	54810	55071	54810
40°	35251	35733	35251	35733
45°	14265	15669	14265	15669
50°	2679	2973	2679	2973
55°	814	793	814	793
60°	525	525	525	525
65°	368	368	368	368
70°	241	277	241	277
75°	189	189	189	189
80°	141	141	141	141
85°	0	140	0	140

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 15669 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	638.9	14.7
10°-20°	1377.9	31.6
20°-30°	1130.3	26.0
30°-40°	889.6	20.4
40°-50°	292.7	6.7
50°-60°	17.1	0.4
60°-70°	5.3	0.1
70°-80°	1.8	0.0
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°	3147.1	72.3
0°-40°	4036.7	92.7
0°-60°	4346.5	99.8
0°-90°	4353.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4353.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	7128	7128	7128	7128	7128	
5°	6889	6959	6889	6959	6889	635
15°	5022	5066	5022	5066	5022	1367
25°	2364	2397	2364	2397	2364	1123
35°	1478	1471	1478	1471	1478	889
45°	330	363	330	363	330	282
55°	15	15	15	15	15	16
65°	5	5	5	5	5	5
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°	7128.5	7128.5	7128.5	7128.5	7128.5	7128.5	7128.5	7128.5	7128.5	7128.5	7128.5
0.5°	7125.4	7126.1	7129.7	7122.6	7130.5	7122.6	7129.7	7126.1	7125.4	7126.1	7129.7
1°	7117.9	7119.5	7125.0	7118.3	7126.5	7118.3	7125.0	7119.5	7117.9	7119.5	7125.0
1.5°	7104.6	7108.1	7116.4	7111.3	7119.9	7111.3	7116.4	7108.1	7104.6	7108.1	7116.4
2°	7087.0	7091.7	7104.2	7100.7	7112.8	7100.7	7104.2	7091.7	7087.0	7091.7	7104.2
2.5°	7064.3	7071.7	7087.4	7086.6	7099.9	7086.6	7087.4	7071.7	7064.3	7071.7	7087.4
3°	7038.1	7047.8	7067.0	7067.4	7082.7	7067.4	7067.0	7047.8	7038.1	7047.8	7067.0
3.5°	7007.5	7020.4	7042.0	7043.1	7060.4	7043.1	7042.0	7020.4	7007.5	7020.4	7042.0
4°	6973.5	6990.7	7012.2	7013.8	7032.6	7013.8	7012.2	6990.7	6973.5	6990.7	7012.2
4.5°	6933.9	6955.4	6976.6	6980.1	6998.9	6980.1	6976.6	6955.4	6933.9	6955.4	6976.6
5°	6889.3	6916.3	6935.9	6941.0	6959.0	6941.0	6935.9	6916.3	6889.3	6916.3	6935.9
5.5°	6839.6	6871.7	6887.3	6897.1	6912.8	6897.1	6887.3	6871.7	6839.6	6871.7	6887.3
6°	6785.1	6821.2	6833.7	6848.6	6858.3	6848.6	6833.7	6821.2	6785.1	6821.2	6833.7
6.5°	6725.6	6764.4	6772.6	6794.1	6797.7	6794.1	6772.6	6764.4	6725.6	6764.4	6772.6
7°	6663.0	6701.0	6706.4	6735.8	6730.3	6735.8	6706.4	6701.0	6663.0	6701.0	6706.4
7.5°	6596.4	6631.3	6633.6	6672.0	6659.8	6672.0	6633.6	6631.3	6596.4	6631.3	6633.6
8°	6525.2	6556.1	6557.7	6602.7	6583.9	6602.7	6557.7	6556.1	6525.2	6556.1	6557.7
8.5°	6447.2	6472.7	6476.6	6526.7	6506.4	6526.7	6476.6	6472.7	6447.2	6472.7	6476.6
9°	6364.2	6383.8	6392.8	6443.7	6424.1	6443.7	6392.8	6383.8	6364.2	6383.8	6392.8
9.5°	6272.6	6286.7	6307.5	6353.7	6343.1	6353.7	6307.5	6286.7	6272.6	6286.7	6307.5
10°	6175.1	6185.7	6218.2	6255.0	6258.1	6255.0	6218.2	6185.7	6175.1	6185.7	6218.2
10.5°	6071.8	6078.4	6126.2	6150.5	6170.8	6150.5	6126.2	6078.4	6071.8	6078.4	6126.2
11°	5966.5	5969.2	6030.7	6041.2	6075.3	6041.2	6030.7	5969.2	5966.5	5969.2	6030.7
11.5°	5856.4	5858.4	5927.7	5928.5	5970.4	5928.5	5927.7	5858.4	5856.4	5858.4	5927.7
12°	5745.6	5747.2	5814.5	5816.5	5857.6	5816.5	5814.5	5747.2	5745.6	5747.2	5814.5
12.5°	5629.0	5638.4	5692.0	5702.6	5731.9	5702.6	5692.0	5638.4	5629.0	5638.4	5692.0
13°	5514.2	5527.9	5565.5	5586.7	5605.9	5586.7	5565.5	5527.9	5514.2	5527.9	5565.5
13.5°	5395.2	5414.0	5433.6	5463.7	5470.8	5463.7	5433.6	5414.0	5395.2	5414.0	5433.6
14°	5275.4	5294.2	5302.0	5335.3	5334.9	5335.3	5302.0	5294.2	5275.4	5294.2	5302.0
14.5°	5150.9	5165.8	5171.7	5205.3	5200.6	5205.3	5171.7	5165.8	5150.9	5165.8	5171.7
15°	5022.1	5031.5	5040.9	5071.4	5065.6	5071.4	5040.9	5031.5	5022.1	5031.5	5040.9
15.5°	4884.3	4889.8	4910.5	4937.9	4939.1	4937.9	4910.5	4889.8	4884.3	4889.8	4910.5
16°	4744.1	4747.6	4779.0	4803.2	4809.1	4803.2	4779.0	4747.6	4744.1	4747.6	4779.0
16.5°	4596.5	4607.1	4644.3	4669.7	4683.8	4669.7	4644.3	4607.1	4596.5	4607.1	4644.3
17°	4453.6	4466.1	4507.2	4537.4	4555.4	4537.4	4507.2	4466.1	4453.6	4466.1	4507.2
17.5°	4309.1	4326.4	4363.5	4400.4	4418.0	4400.4	4363.5	4326.4	4309.1	4326.4	4363.5
18°	4170.1	4182.7	4216.7	4256.7	4271.9	4256.7	4216.7	4182.7	4170.1	4182.7	4216.7
18.5°	4025.3	4037.0	4063.2	4103.2	4114.9	4103.2	4063.2	4037.0	4025.3	4037.0	4063.2
19°	3876.9	3884.7	3905.1	3934.8	3947.0	3934.8	3905.1	3884.7	3876.9	3884.7	3905.1
19.5°	3721.8	3722.6	3737.9	3760.6	3772.0	3760.6	3737.9	3722.6	3721.8	3722.6	3737.9
20°	3557.8	3557.8	3566.0	3578.5	3572.7	3578.5	3566.0	3557.8	3557.8	3557.8	3566.0
20.5°	3396.5	3390.6	3394.1	3393.7	3376.5	3393.7	3394.1	3390.6	3396.5	3390.6	3394.1
21°	3230.5	3226.6	3212.1	3226.6	3221.1	3226.6	3212.1	3226.6	3230.5	3226.6	3212.1



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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°	2766.1	2784.5	2809.6	2839.7	2826.4	2839.7	2809.6	2784.5	2766.1	2784.5	2809.6
23°	2657.7	2670.2	2696.0	2737.2	2737.5	2737.2	2696.0	2670.2	2657.7	2670.2	2696.0
23.5°	2577.8	2575.8	2592.3	2631.8	2636.9	2631.8	2592.3	2575.8	2577.8	2575.8	2592.3
24°	2492.1	2500.7	2510.9	2543.0	2545.3	2543.0	2510.9	2500.7	2492.1	2500.7	2510.9
24.5°	2426.3	2430.6	2439.6	2460.0	2460.0	2460.0	2439.6	2430.6	2426.3	2430.6	2439.6
25°	2364.0	2369.5	2378.9	2397.7	2396.9	2397.7	2378.9	2369.5	2364.0	2369.5	2378.9
25.5°	2306.1	2308.8	2318.6	2336.2	2337.4	2336.2	2318.6	2308.8	2306.1	2308.8	2318.6
26°	2250.1	2252.4	2259.5	2272.8	2274.8	2272.8	2259.5	2252.4	2250.1	2252.4	2259.5
26.5°	2197.2	2198.0	2206.2	2218.4	2219.6	2218.4	2206.2	2198.0	2197.2	2198.0	2206.2
27°	2143.6	2145.9	2154.6	2169.8	2173.7	2169.8	2154.6	2145.9	2143.6	2145.9	2154.6
27.5°	2093.1	2096.2	2104.4	2119.3	2124.8	2119.3	2104.4	2096.2	2093.1	2096.2	2104.4
28°	2045.3	2048.5	2056.3	2067.3	2072.3	2067.3	2056.3	2048.5	2045.3	2048.5	2056.3
28.5°	2001.1	2002.7	2010.1	2018.7	2023.0	2018.7	2010.1	2002.7	2001.1	2002.7	2010.1
29°	1957.2	1958.4	1965.5	1972.9	1977.6	1972.9	1965.5	1958.4	1957.2	1958.4	1965.5
29.5°	1913.8	1916.1	1922.0	1930.2	1934.1	1930.2	1922.0	1916.1	1913.8	1916.1	1922.0
30°	1871.5	1873.8	1879.3	1887.2	1891.1	1887.2	1879.3	1873.8	1871.5	1873.8	1879.3
30.5°	1830.4	1832.3	1837.8	1845.3	1848.0	1845.3	1837.8	1832.3	1830.4	1832.3	1837.8
31°	1790.1	1792.0	1797.1	1804.9	1808.8	1804.9	1797.1	1792.0	1790.1	1792.0	1797.1
31.5°	1751.3	1753.2	1758.7	1765.8	1768.5	1765.8	1758.7	1753.2	1751.3	1753.2	1758.7
32°	1714.1	1715.7	1720.8	1727.8	1730.5	1727.8	1720.8	1715.7	1714.1	1715.7	1720.8
32.5°	1678.5	1680.0	1683.6	1690.2	1692.6	1690.2	1683.6	1680.0	1678.5	1680.0	1683.6
33°	1644.0	1644.8	1646.8	1649.9	1652.2	1649.9	1646.8	1644.8	1644.0	1644.8	1646.8
33.5°	1608.4	1608.4	1607.6	1606.0	1609.6	1606.0	1607.6	1608.4	1608.4	1608.4	1607.6
34°	1568.1	1566.5	1565.7	1560.6	1568.4	1560.6	1565.7	1566.5	1568.1	1566.5	1565.7
34.5°	1524.6	1521.1	1520.7	1514.0	1519.9	1514.0	1520.7	1521.1	1524.6	1521.1	1520.7
35°	1477.6	1472.9	1472.9	1466.7	1470.6	1466.7	1472.9	1472.9	1477.6	1472.9	1472.9
35.5°	1426.3	1424.4	1422.0	1416.5	1418.9	1416.5	1422.0	1424.4	1426.3	1424.4	1422.0
36°	1373.1	1372.3	1368.0	1364.9	1365.2	1364.9	1368.0	1372.3	1373.1	1372.3	1368.0
36.5°	1316.7	1318.3	1312.0	1310.0	1307.7	1310.0	1312.0	1318.3	1316.7	1318.3	1312.0
37°	1256.0	1260.7	1255.2	1254.1	1250.9	1254.1	1255.2	1260.7	1256.0	1260.7	1255.2
37.5°	1195.7	1199.2	1197.7	1195.7	1194.5	1195.7	1197.7	1199.2	1195.7	1199.2	1197.7
38°	1135.4	1138.2	1136.2	1137.8	1136.6	1137.8	1136.2	1138.2	1135.4	1138.2	1136.2
38.5°	1075.1	1073.6	1074.3	1074.7	1077.9	1074.7	1074.3	1073.6	1075.1	1073.6	1074.3
39°	1013.7	1010.1	1012.1	1012.1	1018.4	1012.1	1012.1	1010.1	1013.7	1010.1	1012.1
39.5°	949.1	947.1	949.8	952.2	956.9	952.2	949.8	947.1	949.1	947.1	949.8
40°	884.5	886.0	889.5	893.1	896.6	893.1	889.5	886.0	884.5	886.0	889.5
40.5°	820.2	824.2	827.7	836.3	835.9	836.3	827.7	824.2	820.2	824.2	827.7
41°	758.0	762.3	767.4	777.6	776.0	777.6	767.4	762.3	758.0	762.3	767.4
41.5°	695.3	700.8	707.5	719.6	716.9	719.6	707.5	700.8	695.3	700.8	707.5
42°	635.8	641.3	650.3	662.5	660.5	662.5	650.3	641.3	635.8	641.3	650.3
42.5°	578.3	583.4	595.1	607.6	606.5	607.6	595.1	583.4	578.3	583.4	595.1
43°	522.7	529.3	541.5	555.6	554.4	555.6	541.5	529.3	522.7	529.3	541.5
43.5°	473.0	476.5	488.6	502.3	503.5	502.3	488.6	476.5	473.0	476.5	488.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	330.4	332.0	345.3	357.9	362.9	357.9	345.3	332.0	330.4	332.0	345.3
45.5°	285.0	288.6	303.4	314.4	321.1	314.4	303.4	288.6	285.0	288.6	303.4
46°	245.1	247.8	263.9	276.4	283.5	276.4	263.9	247.8	245.1	247.8	263.9
46.5°	209.1	213.8	226.3	242.0	250.2	242.0	226.3	213.8	209.1	213.8	226.3
47°	176.2	181.7	191.5	209.1	216.9	209.1	191.5	181.7	176.2	181.7	191.5
47.5°	148.0	153.5	162.5	177.8	183.6	177.8	162.5	153.5	148.0	153.5	162.5
48°	122.5	129.2	135.5	149.2	150.3	149.2	135.5	129.2	122.5	129.2	135.5
48.5°	101.0	106.9	112.0	123.7	121.8	123.7	112.0	106.9	101.0	106.9	112.0
49°	83.8	87.3	90.8	101.8	98.7	101.8	90.8	87.3	83.8	87.3	90.8
49.5°	70.1	71.3	75.2	81.8	78.3	81.8	75.2	71.3	70.1	71.3	75.2
50°	56.4	56.0	60.3	66.6	62.6	66.6	60.3	56.0	56.4	56.0	60.3
50.5°	42.7	44.2	46.6	52.9	49.3	52.9	46.6	44.2	42.7	44.2	46.6
51°	32.9	33.7	38.0	42.3	39.2	42.3	38.0	33.7	32.9	33.7	38.0
51.5°	24.7	27.8	30.1	35.2	34.8	35.2	30.1	27.8	24.7	27.8	30.1
52°	21.5	23.1	25.4	27.8	30.5	27.8	25.4	23.1	21.5	23.1	25.4
52.5°	19.6	20.0	21.9	23.5	25.8	23.5	21.9	20.0	19.6	20.0	21.9
53°	18.4	18.8	18.8	20.4	21.5	20.4	18.8	18.8	18.4	18.8	18.8
53.5°	17.6	17.6	18.0	17.6	17.2	17.6	18.0	17.6	17.6	17.6	18.0
54°	16.8	16.8	16.8	16.8	16.4	16.8	16.8	16.8	16.8	16.8	16.8
54.5°	16.1	16.1	16.1	16.1	15.7	16.1	16.1	16.1	16.1	16.1	16.1
55°	15.3	15.3	15.3	15.3	14.9	15.3	15.3	15.3	15.3	15.3	15.3
55.5°	14.5	14.5	14.5	14.5	14.1	14.5	14.5	14.5	14.5	14.5	14.5
56°	13.7	13.7	13.7	13.7	13.3	13.7	13.7	13.7	13.7	13.7	13.7
56.5°	12.9	12.9	13.3	12.9	12.5	12.9	13.3	12.9	12.9	12.9	13.3
57°	12.1	12.1	12.5	12.1	12.1	12.1	12.5	12.1	12.1	12.1	12.5
57.5°	11.4	11.7	11.7	11.4	11.4	11.4	11.7	11.7	11.4	11.7	11.7
58°	11.0	11.0	11.0	11.0	10.6	11.0	11.0	11.0	11.0	11.0	11.0
58.5°	10.2	10.6	10.6	10.2	10.2	10.2	10.6	10.6	10.2	10.6	10.6
59°	9.8	9.8	9.8	9.8	9.4	9.8	9.8	9.8	9.8	9.8	9.8
59.5°	9.0	9.4	9.4	9.4	9.0	9.4	9.4	9.4	9.0	9.4	9.4
60°	8.6	8.6	9.0	8.6	8.6	8.6	9.0	8.6	8.6	8.6	9.0
60.5°	8.2	8.2	8.6	8.2	8.2	8.2	8.6	8.2	8.2	8.2	8.6
61°	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
61.5°	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
62°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
62.5°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
63°	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
63.5°	5.9	5.9	6.3	5.9	5.9	5.9	6.3	5.9	5.9	5.9	6.3
64°	5.5	5.5	5.9	5.5	5.5	5.5	5.9	5.5	5.5	5.5	5.9
64.5°	5.1	5.5	5.5	5.5	5.1	5.5	5.5	5.5	5.1	5.5	5.5
65°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
65.5°	4.7	4.7	5.1	4.7	4.7	4.7	5.1	4.7	4.7	4.7	5.1
66°	4.3	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.3	4.7	4.7



TEST NUMBER: P776461

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRC-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
68°	3.5	3.5	3.9	3.9	3.5	3.9	3.9	3.5	3.5	3.5	3.9
68.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
69°	3.1	3.1	3.5	3.5	3.1	3.5	3.5	3.1	3.1	3.1	3.5
69.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
70°	2.7	2.7	3.1	3.1	3.1	3.1	3.1	2.7	2.7	2.7	3.1
70.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
71°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
71.5°	2.3	2.3	2.7	2.7	2.3	2.7	2.7	2.3	2.3	2.3	2.7
72°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
72.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
73°	2.0	2.0	2.0	2.3	2.0	2.3	2.0	2.0	2.0	2.0	2.0
73.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
74°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
74.5°	1.6	1.6	2.0	2.0	1.6	2.0	2.0	1.6	1.6	1.6	2.0
75°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
75.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
76°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
76.5°	1.2	1.2	1.2	1.6	1.2	1.6	1.2	1.2	1.2	1.2	1.2
77°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
77.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
78°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
78.5°	0.8	0.8	1.2	1.2	0.8	1.2	1.2	0.8	0.8	0.8	1.2
79°	0.8	0.8	0.8	1.2	0.8	1.2	0.8	0.8	0.8	0.8	0.8
79.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
80.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
81°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
81.5°	0.4	0.4	0.8	0.8	0.4	0.8	0.8	0.4	0.4	0.4	0.8
82°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
82.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
83°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
83.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
84°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
84.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
85°	0.0	0.0	0.4	0.4	0.0	0.4	0.4	0.0	0.0	0.0	0.4
85.5°	0.0	0.0	0.0	0.4	0.0	0.4	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: P776461
CATALOG NUMBER: HCDJBL3040CSD-HCD82TRC-4000lm-3000K

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: P776461

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRC-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	7128.5	7128.5	7128.5	7128.5	7128.5	7128.5
0.5°	7122.6	7130.5	7122.6	7129.7	7126.1	7125.4
1°	7118.3	7126.5	7118.3	7125.0	7119.5	7117.9
1.5°	7111.3	7119.9	7111.3	7116.4	7108.1	7104.6
2°	7100.7	7112.8	7100.7	7104.2	7091.7	7087.0
2.5°	7086.6	7099.9	7086.6	7087.4	7071.7	7064.3
3°	7067.4	7082.7	7067.4	7067.0	7047.8	7038.1
3.5°	7043.1	7060.4	7043.1	7042.0	7020.4	7007.5
4°	7013.8	7032.6	7013.8	7012.2	6990.7	6973.5
4.5°	6980.1	6998.9	6980.1	6976.6	6955.4	6933.9
5°	6941.0	6959.0	6941.0	6935.9	6916.3	6889.3
5.5°	6897.1	6912.8	6897.1	6887.3	6871.7	6839.6
6°	6848.6	6858.3	6848.6	6833.7	6821.2	6785.1
6.5°	6794.1	6797.7	6794.1	6772.6	6764.4	6725.6
7°	6735.8	6730.3	6735.8	6706.4	6701.0	6663.0
7.5°	6672.0	6659.8	6672.0	6633.6	6631.3	6596.4
8°	6602.7	6583.9	6602.7	6557.7	6556.1	6525.2
8.5°	6526.7	6506.4	6526.7	6476.6	6472.7	6447.2
9°	6443.7	6424.1	6443.7	6392.8	6383.8	6364.2
9.5°	6353.7	6343.1	6353.7	6307.5	6286.7	6272.6
10°	6255.0	6258.1	6255.0	6218.2	6185.7	6175.1
10.5°	6150.5	6170.8	6150.5	6126.2	6078.4	6071.8
11°	6041.2	6075.3	6041.2	6030.7	5969.2	5966.5
11.5°	5928.5	5970.4	5928.5	5927.7	5858.4	5856.4
12°	5816.5	5857.6	5816.5	5814.5	5747.2	5745.6
12.5°	5702.6	5731.9	5702.6	5692.0	5638.4	5629.0
13°	5586.7	5605.9	5586.7	5565.5	5527.9	5514.2
13.5°	5463.7	5470.8	5463.7	5433.6	5414.0	5395.2
14°	5335.3	5334.9	5335.3	5302.0	5294.2	5275.4
14.5°	5205.3	5200.6	5205.3	5171.7	5165.8	5150.9
15°	5071.4	5065.6	5071.4	5040.9	5031.5	5022.1
15.5°	4937.9	4939.1	4937.9	4910.5	4889.8	4884.3
16°	4803.2	4809.1	4803.2	4779.0	4747.6	4744.1
16.5°	4669.7	4683.8	4669.7	4644.3	4607.1	4596.5
17°	4537.4	4555.4	4537.4	4507.2	4466.1	4453.6
17.5°	4400.4	4418.0	4400.4	4363.5	4326.4	4309.1
18°	4256.7	4271.9	4256.7	4216.7	4182.7	4170.1
18.5°	4103.2	4114.9	4103.2	4063.2	4037.0	4025.3
19°	3934.8	3947.0	3934.8	3905.1	3884.7	3876.9
19.5°	3760.6	3772.0	3760.6	3737.9	3722.6	3721.8
20°	3578.5	3572.7	3578.5	3566.0	3557.8	3557.8
20.5°	3393.7	3376.5	3393.7	3394.1	3390.6	3396.5
21°	3226.6	3221.1	3226.6	3212.1	3226.6	3230.5



TEST NUMBER: P776461

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRC-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2839.7	2826.4	2839.7	2809.6	2784.5	2766.1
23°	2737.2	2737.5	2737.2	2696.0	2670.2	2657.7
23.5°	2631.8	2636.9	2631.8	2592.3	2575.8	2577.8
24°	2543.0	2545.3	2543.0	2510.9	2500.7	2492.1
24.5°	2460.0	2460.0	2460.0	2439.6	2430.6	2426.3
25°	2397.7	2396.9	2397.7	2378.9	2369.5	2364.0
25.5°	2336.2	2337.4	2336.2	2318.6	2308.8	2306.1
26°	2272.8	2274.8	2272.8	2259.5	2252.4	2250.1
26.5°	2218.4	2219.6	2218.4	2206.2	2198.0	2197.2
27°	2169.8	2173.7	2169.8	2154.6	2145.9	2143.6
27.5°	2119.3	2124.8	2119.3	2104.4	2096.2	2093.1
28°	2067.3	2072.3	2067.3	2056.3	2048.5	2045.3
28.5°	2018.7	2023.0	2018.7	2010.1	2002.7	2001.1
29°	1972.9	1977.6	1972.9	1965.5	1958.4	1957.2
29.5°	1930.2	1934.1	1930.2	1922.0	1916.1	1913.8
30°	1887.2	1891.1	1887.2	1879.3	1873.8	1871.5
30.5°	1845.3	1848.0	1845.3	1837.8	1832.3	1830.4
31°	1804.9	1808.8	1804.9	1797.1	1792.0	1790.1
31.5°	1765.8	1768.5	1765.8	1758.7	1753.2	1751.3
32°	1727.8	1730.5	1727.8	1720.8	1715.7	1714.1
32.5°	1690.2	1692.6	1690.2	1683.6	1680.0	1678.5
33°	1649.9	1652.2	1649.9	1646.8	1644.8	1644.0
33.5°	1606.0	1609.6	1606.0	1607.6	1608.4	1608.4
34°	1560.6	1568.4	1560.6	1565.7	1566.5	1568.1
34.5°	1514.0	1519.9	1514.0	1520.7	1521.1	1524.6
35°	1466.7	1470.6	1466.7	1472.9	1472.9	1477.6
35.5°	1416.5	1418.9	1416.5	1422.0	1424.4	1426.3
36°	1364.9	1365.2	1364.9	1368.0	1372.3	1373.1
36.5°	1310.0	1307.7	1310.0	1312.0	1318.3	1316.7
37°	1254.1	1250.9	1254.1	1255.2	1260.7	1256.0
37.5°	1195.7	1194.5	1195.7	1197.7	1199.2	1195.7
38°	1137.8	1136.6	1137.8	1136.2	1138.2	1135.4
38.5°	1074.7	1077.9	1074.7	1074.3	1073.6	1075.1
39°	1012.1	1018.4	1012.1	1012.1	1010.1	1013.7
39.5°	952.2	956.9	952.2	949.8	947.1	949.1
40°	893.1	896.6	893.1	889.5	886.0	884.5
40.5°	836.3	835.9	836.3	827.7	824.2	820.2
41°	777.6	776.0	777.6	767.4	762.3	758.0
41.5°	719.6	716.9	719.6	707.5	700.8	695.3
42°	662.5	660.5	662.5	650.3	641.3	635.8
42.5°	607.6	606.5	607.6	595.1	583.4	578.3
43°	555.6	554.4	555.6	541.5	529.3	522.7
43.5°	502.3	503.5	502.3	488.6	476.5	473.0



TEST NUMBER: P776461

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRC-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	357.9	362.9	357.9	345.3	332.0	330.4
45.5°	314.4	321.1	314.4	303.4	288.6	285.0
46°	276.4	283.5	276.4	263.9	247.8	245.1
46.5°	242.0	250.2	242.0	226.3	213.8	209.1
47°	209.1	216.9	209.1	191.5	181.7	176.2
47.5°	177.8	183.6	177.8	162.5	153.5	148.0
48°	149.2	150.3	149.2	135.5	129.2	122.5
48.5°	123.7	121.8	123.7	112.0	106.9	101.0
49°	101.8	98.7	101.8	90.8	87.3	83.8
49.5°	81.8	78.3	81.8	75.2	71.3	70.1
50°	66.6	62.6	66.6	60.3	56.0	56.4
50.5°	52.9	49.3	52.9	46.6	44.2	42.7
51°	42.3	39.2	42.3	38.0	33.7	32.9
51.5°	35.2	34.8	35.2	30.1	27.8	24.7
52°	27.8	30.5	27.8	25.4	23.1	21.5
52.5°	23.5	25.8	23.5	21.9	20.0	19.6
53°	20.4	21.5	20.4	18.8	18.8	18.4
53.5°	17.6	17.2	17.6	18.0	17.6	17.6
54°	16.8	16.4	16.8	16.8	16.8	16.8
54.5°	16.1	15.7	16.1	16.1	16.1	16.1
55°	15.3	14.9	15.3	15.3	15.3	15.3
55.5°	14.5	14.1	14.5	14.5	14.5	14.5
56°	13.7	13.3	13.7	13.7	13.7	13.7
56.5°	12.9	12.5	12.9	13.3	12.9	12.9
57°	12.1	12.1	12.1	12.5	12.1	12.1
57.5°	11.4	11.4	11.4	11.7	11.7	11.4
58°	11.0	10.6	11.0	11.0	11.0	11.0
58.5°	10.2	10.2	10.2	10.6	10.6	10.2
59°	9.8	9.4	9.8	9.8	9.8	9.8
59.5°	9.4	9.0	9.4	9.4	9.4	9.0
60°	8.6	8.6	8.6	9.0	8.6	8.6
60.5°	8.2	8.2	8.2	8.6	8.2	8.2
61°	7.8	7.8	7.8	7.8	7.8	7.8
61.5°	7.4	7.4	7.4	7.4	7.4	7.4
62°	7.0	7.0	7.0	7.0	7.0	7.0
62.5°	6.7	6.7	6.7	6.7	6.7	6.7
63°	6.3	6.3	6.3	6.3	6.3	6.3
63.5°	5.9	5.9	5.9	6.3	5.9	5.9
64°	5.9	5.5	5.9	5.9	5.5	5.5
64.5°	5.5	5.1	5.5	5.5	5.5	5.1
65°	5.1	5.1	5.1	5.1	5.1	5.1
65.5°	4.7	4.7	4.7	5.1	4.7	4.7
66°	4.7	4.7	4.7	4.7	4.7	4.3



TEST NUMBER: P776461

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRC-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	3.9	3.9	3.9	3.9	3.9	3.9
68°	3.9	3.5	3.9	3.9	3.5	3.5
68.5°	3.5	3.5	3.5	3.5	3.5	3.5
69°	3.5	3.1	3.5	3.5	3.1	3.1
69.5°	3.1	3.1	3.1	3.1	3.1	3.1
70°	3.1	3.1	3.1	3.1	2.7	2.7
70.5°	2.7	2.7	2.7	2.7	2.7	2.7
71°	2.7	2.7	2.7	2.7	2.7	2.7
71.5°	2.7	2.3	2.7	2.7	2.3	2.3
72°	2.3	2.3	2.3	2.3	2.3	2.3
72.5°	2.3	2.3	2.3	2.3	2.3	2.3
73°	2.3	2.0	2.3	2.0	2.0	2.0
73.5°	2.0	2.0	2.0	2.0	2.0	2.0
74°	2.0	2.0	2.0	2.0	2.0	2.0
74.5°	2.0	2.0	2.0	2.0	1.6	1.6
75°	1.6	1.6	1.6	1.6	1.6	1.6
75.5°	1.6	1.6	1.6	1.6	1.6	1.6
76°	1.6	1.6	1.6	1.6	1.6	1.6
76.5°	1.6	1.6	1.6	1.2	1.2	1.2
77°	1.2	1.2	1.2	1.2	1.2	1.2
77.5°	1.2	1.2	1.2	1.2	1.2	1.2
78°	1.2	1.2	1.2	1.2	1.2	1.2
78.5°	1.2	1.2	1.2	1.2	0.8	0.8
79°	1.2	0.8	1.2	0.8	0.8	0.8
79.5°	0.8	0.8	0.8	0.8	0.8	0.8
80°	0.8	0.8	0.8	0.8	0.8	0.8
80.5°	0.8	0.8	0.8	0.8	0.8	0.8
81°	0.8	0.8	0.8	0.8	0.8	0.8
81.5°	0.8	0.8	0.8	0.8	0.4	0.4
82°	0.4	0.4	0.4	0.4	0.4	0.4
82.5°	0.4	0.4	0.4	0.4	0.4	0.4
83°	0.4	0.4	0.4	0.4	0.4	0.4
83.5°	0.4	0.4	0.4	0.4	0.4	0.4
84°	0.4	0.4	0.4	0.4	0.4	0.4
84.5°	0.4	0.4	0.4	0.4	0.4	0.4
85°	0.4	0.4	0.4	0.4	0.0	0.0
85.5°	0.4	0.4	0.4	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: P776461
CATALOG NUMBER: HCDJBL3040CSD-HCD82TRC-4000lm-3000K

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°	3061.3	3059.4	3064.9	3082.1	3079.7	3082.1	3064.9	3059.4	3061.3	3059.4	3064.9
22°	2889.5	2916.9	2929.8	2952.5	2949.8	2952.5	2929.8	2916.9	2889.5	2916.9	2929.8



44°	424.0	427.2	438.1	451.8	453.4	451.8	438.1	427.2	424.0	427.2	438.1
44.5°	376.6	378.6	389.2	403.3	407.2	403.3	389.2	378.6	376.6	378.6	389.2



66.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
67°	3.9	3.9	4.3	4.3	3.9	4.3	4.3	3.9	3.9	3.9	4.3



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°	3082.1	3079.7	3082.1	3064.9	3059.4	3061.3
22°	2952.5	2949.8	2952.5	2929.8	2916.9	2889.5



44°	451.8	453.4	451.8	438.1	427.2	424.0
44.5°	403.3	407.2	403.3	389.2	378.6	376.6



66.5°	4.3	4.3	4.3	4.3	4.3	4.3
67°	4.3	3.9	4.3	4.3	3.9	3.9

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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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Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)