

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: P776599

Luminaire Tested: HCDJBL54050CSD-HCD4TRC-5000lm-5000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776599
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2310613A001)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL54050CSD-HCD4TRC-5000lm-5000K
Description: 4 INCH ROUND MEDIUM SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT
Ballast/Driver: -

Summary

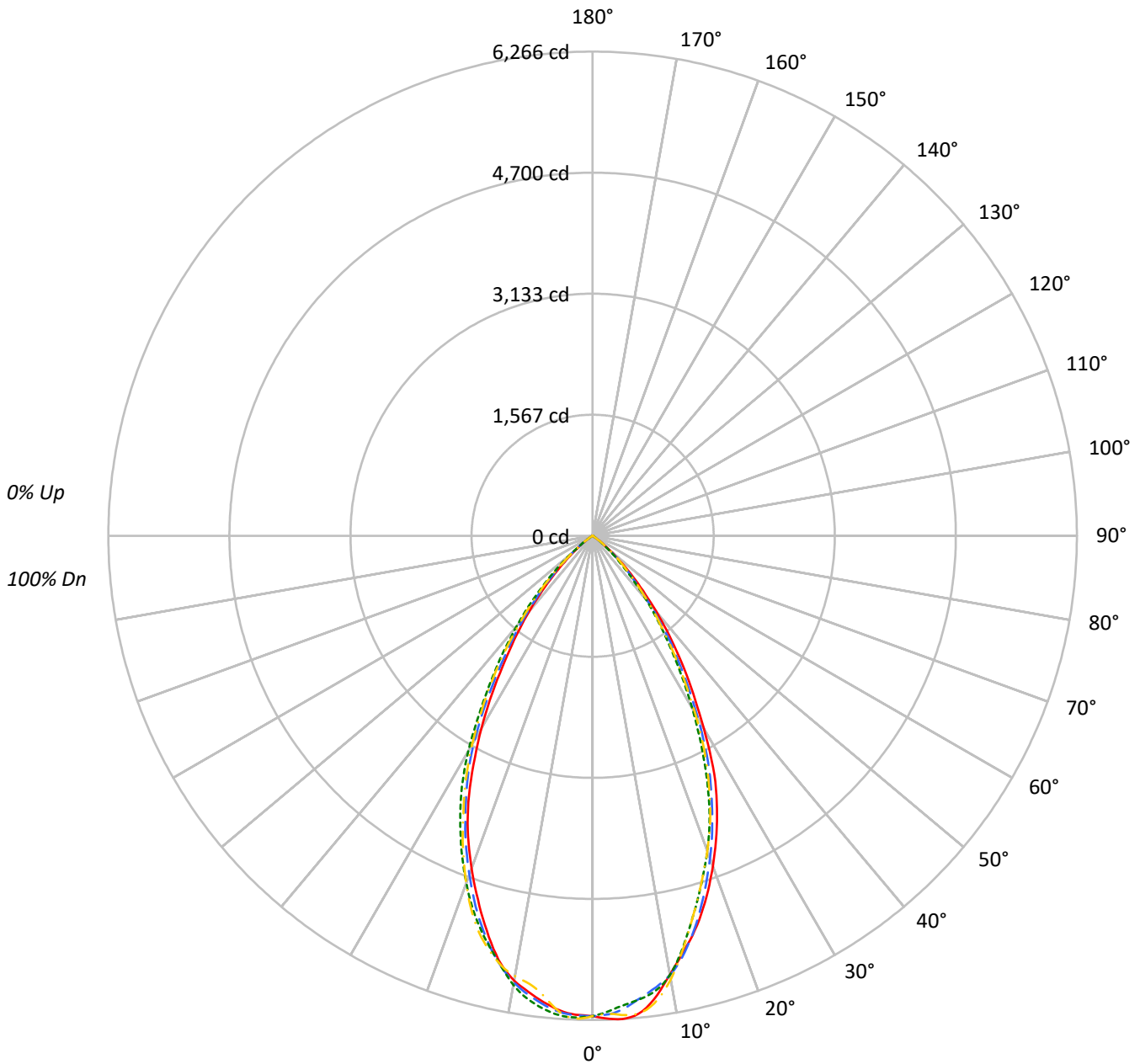
Lumens per Lamp: N/A
Luminaire Lumens: 5655.9 lumens
Efficiency: N/A
Efficacy: 117.8 lumens/watt
Spacing Criteria (0/90/45): 0.87 / 0.87 / 0.88
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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



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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					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93					93			
2	108	103	98	95	105	101	97	94	98	95	92	95	92	90	92	90	88	86					86			
3	102	95	90	86	100	94	89	86	91	87	84	89	86	83	87	84	82	80					80			
4	97	89	83	79	95	88	82	78	85	81	77	83	80	76	82	78	76	74					74			
5	91	83	77	72	90	82	76	72	80	75	71	78	74	71	77	73	70	69					69			
6	87	78	71	67	85	77	71	67	75	70	66	74	69	66	72	68	65	64					64			
7	82	73	66	62	81	72	66	62	71	65	62	69	65	61	68	64	61	60					60			
8	78	68	62	58	77	68	62	58	67	61	57	66	61	57	65	60	57	56					56			
9	74	64	58	54	73	64	58	54	63	58	54	62	57	54	61	57	53	52					52			
10	71	61	55	51	70	60	54	51	59	54	50	59	54	50	58	53	50	49					49			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	782421	782421	782421	782421
5°	787734	764615	772524	782163
10°	736665	737036	747029	754352
15°	680084	659147	689387	702038
20°	609085	581054	613370	640035
25°	527695	487107	528167	562688
30°	417690	374007	417617	467287
35°	308359	267124	304641	352529
40°	210581	176114	208741	251652
45°	123837	96180	121933	157351
50°	52667	42780	56759	76338
55°	10663	10444	18014	22468
60°	1712	2089	1963	2693
65°	1012	1161	1012	1578
70°	552	699	699	883
75°	243	486	486	729
80°	0	362	362	362
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 270°

Vertical Angle: 45°

Luminance: 157351 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	575.5	10.2
10°-20°	1463.2	25.9
20°-30°	1716.4	30.3
30°-40°	1256.4	22.2
40°-50°	554.3	9.8
50°-60°	84.7	1.5
60°-70°	4.2	0.1
70°-80°	1.1	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°	3755.1	66.4
0°-40°	5011.5	88.6
0°-60°	5650.5	99.9
0°-90°	5655.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5655.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	6217	6217	6217	6217	6217	
5°	6236	6052	6115	6191	6236	580
15°	5220	5059	5291	5388	5220	1454
25°	3800	3508	3804	4052	3800	1721
35°	2007	1739	1983	2295	2007	1255
45°	696	540	685	884	696	547
55°	49	48	82	102	49	70
65°	3	4	3	5	3	3
75°	0	1	1	2	0	1
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°	6217.1	6217.1	6217.1	6217.1	6217.1	6217.1	6217.1	6217.1	6217.1	6217.1	6217.1
0.5°	6228.8	6220.5	6212.2	6210.8	6201.6	6201.6	6206.4	6209.8	6213.2	6214.7	6215.6
1°	6238.9	6223.4	6208.4	6200.6	6188.5	6189.4	6197.7	6203.5	6208.4	6211.8	6215.2
1.5°	6248.2	6226.8	6203.0	6187.5	6171.9	6179.7	6191.9	6200.6	6205.0	6207.9	6213.2
2°	6256.4	6228.8	6195.2	6171.0	6153.5	6170.0	6191.9	6202.5	6201.6	6203.0	6209.3
2.5°	6262.7	6227.8	6183.1	6148.6	6134.6	6161.7	6196.2	6206.9	6195.2	6194.3	6204.5
3°	6266.1	6222.4	6167.6	6124.4	6115.1	6156.9	6203.5	6211.3	6186.5	6181.2	6197.2
3.5°	6265.6	6212.7	6146.7	6098.1	6097.7	6153.5	6212.7	6215.2	6172.4	6163.7	6188.9
4°	6260.8	6197.7	6121.9	6070.0	6081.2	6151.1	6219.5	6215.6	6155.9	6142.3	6177.3
4.5°	6251.1	6176.8	6093.3	6043.8	6066.6	6148.2	6222.4	6212.7	6137.0	6116.6	6161.7
5°	6235.5	6151.6	6064.2	6019.0	6052.5	6142.8	6219.5	6203.5	6115.1	6087.9	6143.3
5.5°	6212.7	6122.4	6035.5	5995.7	6038.4	6133.6	6210.3	6190.4	6091.3	6056.4	6121.9
6°	6184.1	6088.9	6007.4	5975.8	6023.9	6119.0	6193.8	6171.0	6067.1	6026.3	6099.1
6.5°	6147.2	6053.5	5980.2	5956.9	6007.4	6101.1	6171.0	6147.7	6041.3	5995.7	6075.3
7°	6103.5	6014.6	5954.9	5938.4	5987.4	6075.8	6141.4	6118.1	6016.1	5969.5	6050.6
7.5°	6054.9	5972.9	5927.2	5920.0	5964.6	6042.8	6105.9	6085.0	5989.4	5942.8	6024.8
8°	6002.0	5928.7	5900.1	5900.1	5937.4	6004.0	6060.3	6046.2	5961.7	5919.0	5997.6
8.5°	5946.2	5879.2	5871.4	5877.2	5904.9	5959.8	6009.8	6004.0	5934.5	5898.6	5970.0
9°	5885.0	5830.1	5840.8	5850.5	5865.1	5906.4	5953.5	5957.3	5905.9	5880.1	5938.4
9.5°	5823.8	5780.1	5807.3	5819.5	5819.9	5848.1	5893.7	5905.4	5877.7	5861.2	5905.4
10°	5764.6	5729.6	5770.4	5783.5	5767.5	5785.0	5826.3	5850.0	5845.7	5840.8	5868.5
10.5°	5707.3	5678.2	5729.1	5740.3	5710.2	5715.1	5757.3	5789.8	5810.2	5819.0	5831.1
11°	5652.0	5626.7	5683.5	5686.9	5649.0	5642.2	5682.5	5726.7	5769.4	5794.7	5789.4
11.5°	5598.1	5572.8	5631.1	5634.0	5578.2	5569.9	5607.3	5658.7	5725.3	5764.1	5745.7
12°	5544.2	5517.9	5574.3	5571.4	5505.8	5484.4	5524.3	5587.4	5675.7	5729.1	5699.0
12.5°	5491.2	5461.6	5516.0	5501.4	5432.5	5405.8	5447.5	5513.6	5621.4	5686.4	5647.6
13°	5439.8	5405.8	5452.9	5430.6	5358.7	5334.9	5367.9	5439.8	5558.7	5636.9	5594.7
13.5°	5388.3	5345.1	5389.8	5363.6	5283.4	5250.4	5289.8	5365.0	5495.6	5584.5	5539.8
14°	5333.9	5283.0	5324.2	5288.8	5207.2	5176.1	5211.6	5289.3	5431.0	5524.3	5483.0
14.5°	5277.1	5219.4	5257.7	5215.0	5132.0	5103.8	5137.8	5216.4	5362.6	5461.6	5423.8
15°	5219.8	5154.8	5187.8	5140.7	5059.1	5027.6	5059.1	5143.6	5291.2	5397.1	5361.1
15.5°	5159.6	5086.8	5117.4	5065.4	4985.8	4952.8	4986.8	5070.8	5221.8	5331.5	5298.0
16°	5098.0	5019.8	5044.6	4990.2	4913.0	4881.4	4910.1	4999.9	5150.4	5261.6	5233.9
16.5°	5031.0	4948.9	4971.7	4916.4	4839.2	4810.5	4837.2	4931.9	5081.0	5191.7	5168.4
17°	4966.9	4879.0	4896.5	4841.1	4769.3	4737.7	4764.4	4859.1	5011.1	5121.3	5100.9
17.5°	4898.4	4806.2	4822.2	4766.4	4696.9	4667.8	4695.0	4789.7	4936.8	5048.9	5030.5
18°	4830.0	4734.3	4746.0	4692.1	4624.1	4595.5	4618.8	4721.2	4866.4	4976.1	4960.1
18.5°	4760.0	4660.0	4670.2	4617.3	4551.8	4525.1	4546.9	4651.8	4797.4	4899.9	4887.3
19°	4690.6	4587.7	4591.6	4541.1	4481.4	4454.7	4476.0	4580.4	4725.1	4827.1	4814.4
19.5°	4619.2	4513.4	4517.8	4466.3	4410.0	4387.2	4408.5	4512.9	4653.2	4750.3	4740.1
20°	4547.9	4442.0	4440.1	4392.5	4338.6	4317.3	4336.2	4444.0	4579.9	4674.6	4665.9
20.5°	4475.5	4368.2	4364.3	4317.7	4267.7	4248.3	4265.8	4373.1	4507.6	4597.9	4590.6
21°	4403.2	4292.5	4287.6	4242.0	4192.0	4176.5	4195.9	4304.1	4433.8	4522.6	4514.4



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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°	4182.8	4061.9	4044.9	3998.8	3953.6	3949.7	3976.9	4090.0	4212.4	4294.9	4288.1
23°	4108.5	3981.3	3961.9	3914.8	3868.1	3866.7	3895.8	4012.8	4138.6	4219.7	4213.8
23.5°	4032.3	3902.1	3878.3	3827.8	3778.3	3787.6	3815.7	3934.7	4057.5	4140.0	4134.7
24°	3955.1	3821.1	3795.8	3739.5	3688.0	3702.1	3731.2	3850.2	3974.5	4059.9	4052.6
24.5°	3879.3	3740.9	3711.8	3647.7	3597.7	3616.6	3646.3	3764.2	3887.6	3977.4	3972.5
25°	3800.2	3657.4	3628.3	3557.9	3507.9	3531.2	3561.8	3678.3	3803.6	3893.9	3895.8
25.5°	3722.0	3576.3	3544.8	3465.6	3417.6	3445.3	3476.8	3592.9	3712.3	3809.4	3811.3
26°	3641.4	3494.3	3460.8	3372.4	3322.9	3350.6	3391.9	3506.9	3620.5	3724.4	3731.7
26.5°	3556.4	3409.3	3375.3	3279.2	3227.3	3261.7	3305.9	3421.0	3529.3	3640.0	3652.1
27°	3464.2	3320.5	3288.9	3187.0	3133.1	3165.1	3215.1	3328.2	3437.5	3555.0	3572.5
27.5°	3370.5	3233.1	3196.2	3096.2	3038.9	3070.4	3130.2	3232.1	3340.4	3470.5	3492.8
28°	3274.4	3140.4	3103.0	3005.4	2943.2	2976.2	3035.0	3134.0	3243.3	3386.0	3412.7
28.5°	3174.8	3044.7	3010.7	2913.6	2849.5	2881.1	2941.8	3037.9	3150.5	3294.3	3325.8
29°	3073.3	2949.5	2916.5	2824.3	2756.8	2785.9	2848.1	2940.3	3058.3	3202.5	3236.5
29.5°	2971.4	2851.5	2821.4	2734.9	2665.0	2690.8	2751.4	2848.6	2966.5	3109.8	3144.2
30°	2874.3	2753.9	2729.1	2646.1	2573.7	2595.1	2652.9	2751.4	2873.8	3015.6	3050.5
30.5°	2779.1	2655.3	2637.4	2557.7	2482.0	2502.4	2559.7	2656.3	2781.6	2920.9	2955.9
31°	2685.9	2554.3	2545.6	2466.0	2393.6	2408.7	2464.5	2566.0	2688.3	2829.6	2860.2
31.5°	2595.6	2459.2	2456.7	2377.6	2305.3	2318.4	2371.8	2477.1	2595.6	2739.3	2766.5
32°	2505.3	2367.9	2368.9	2289.7	2218.3	2235.3	2280.0	2386.8	2506.3	2649.0	2672.3
32.5°	2421.3	2277.6	2282.4	2200.4	2133.9	2148.9	2194.6	2301.4	2414.5	2560.6	2578.6
33°	2339.7	2189.7	2198.0	2112.0	2049.9	2065.9	2106.7	2215.4	2324.2	2471.8	2486.8
33.5°	2256.7	2102.8	2114.4	2030.9	1967.8	1988.7	2023.2	2131.4	2235.3	2386.8	2391.2
34°	2172.7	2019.8	2031.4	1949.9	1889.6	1903.7	1941.1	2049.9	2148.9	2302.3	2299.4
34.5°	2088.2	1939.7	1951.3	1869.3	1812.9	1826.5	1860.0	1968.8	2064.0	2218.3	2211.1
35°	2007.1	1860.5	1869.7	1793.0	1738.7	1756.6	1781.9	1889.6	1982.9	2135.3	2125.6
35.5°	1928.0	1784.3	1788.7	1731.9	1665.3	1679.9	1706.1	1813.9	1904.7	2051.3	2038.7
36°	1846.9	1739.6	1735.3	1657.6	1595.4	1601.2	1633.3	1736.7	1831.4	1968.8	1955.7
36.5°	1771.2	1660.5	1654.2	1583.8	1526.5	1533.8	1562.4	1664.9	1757.6	1886.7	1874.6
37°	1699.8	1580.9	1572.6	1509.5	1458.0	1462.4	1492.0	1591.1	1685.2	1806.1	1798.4
37.5°	1628.9	1501.2	1490.5	1435.7	1391.5	1393.0	1426.0	1517.7	1616.3	1728.5	1720.7
38°	1558.0	1422.1	1409.0	1367.2	1325.0	1326.9	1360.9	1451.7	1544.4	1650.3	1647.4
38.5°	1486.7	1354.6	1334.7	1299.7	1259.0	1261.9	1296.8	1385.7	1477.0	1577.5	1574.5
39°	1415.8	1290.0	1269.2	1231.3	1195.4	1201.2	1234.7	1314.8	1407.0	1504.1	1503.2
39.5°	1347.8	1225.9	1202.6	1165.3	1132.2	1140.5	1172.0	1251.2	1339.1	1433.3	1431.3
40°	1281.8	1161.4	1139.0	1100.2	1072.0	1081.3	1112.3	1189.0	1270.6	1361.9	1363.3
40.5°	1216.2	1099.7	1073.0	1035.1	1009.4	1024.4	1055.0	1125.9	1208.0	1293.9	1296.3
41°	1150.7	1041.0	1014.7	973.5	952.6	968.1	999.2	1065.7	1141.9	1226.4	1230.8
41.5°	1088.5	982.2	956.0	914.2	894.3	914.2	945.8	1007.0	1078.8	1160.9	1165.3
42°	1026.4	925.4	899.2	856.5	839.0	862.3	893.4	950.7	1018.6	1095.8	1103.6
42.5°	967.2	870.1	841.9	800.6	784.6	811.3	843.4	895.8	960.4	1034.2	1041.9
43°	909.4	814.2	790.9	748.2	732.2	762.3	796.3	841.4	904.0	972.5	982.7
43.5°	854.0	761.3	739.9	696.7	682.2	714.2	748.7	790.4	847.2	913.3	924.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	695.8	613.7	597.7	553.5	540.4	582.6	616.6	647.2	685.1	749.2	765.7
45.5°	646.2	567.1	554.0	510.8	498.6	542.8	575.3	602.0	634.6	699.2	715.7
46°	597.7	523.9	512.7	469.5	463.2	503.5	535.5	559.3	586.5	650.6	666.1
46.5°	549.6	482.1	473.4	431.1	427.7	468.5	497.2	519.0	538.4	604.5	619.5
47°	503.0	441.8	435.5	395.2	391.8	433.6	463.2	479.7	494.7	559.3	576.3
47.5°	458.3	403.5	399.1	361.2	356.4	398.6	429.7	444.7	459.3	516.6	533.1
48°	417.5	366.6	364.6	330.2	321.4	363.7	395.7	409.8	423.9	480.2	490.9
48.5°	376.8	331.6	332.1	301.0	293.3	329.2	361.7	374.8	388.4	443.8	453.5
49°	338.4	299.1	301.0	272.9	267.0	299.6	327.7	339.9	352.5	406.9	416.1
49.5°	303.0	268.0	271.9	247.6	242.3	270.9	296.7	309.3	317.5	370.5	378.7
50°	269.0	238.4	243.2	223.8	218.5	243.7	268.5	279.7	289.9	334.0	341.8
50.5°	238.4	210.2	217.0	201.0	196.2	218.0	240.8	253.0	264.1	303.0	309.8
51°	209.3	184.0	192.3	178.7	175.3	193.2	215.1	228.2	239.4	273.8	279.7
51.5°	181.6	163.1	168.0	160.2	155.4	170.4	189.8	203.9	216.1	247.1	249.6
52°	160.2	142.3	148.1	141.8	135.9	149.1	167.5	181.1	194.2	221.9	221.9
52.5°	139.3	121.4	128.7	123.3	117.0	128.7	144.7	159.3	173.3	197.6	195.2
53°	118.5	100.5	109.2	104.4	99.5	109.2	124.3	138.9	153.9	174.8	170.9
53.5°	97.6	79.6	89.8	86.4	83.0	91.8	105.4	119.0	133.5	153.4	147.6
54°	76.7	64.6	73.8	70.9	68.9	75.7	87.4	101.0	114.6	133.0	126.2
54.5°	61.7	51.5	59.7	57.3	58.3	64.1	71.9	84.0	97.1	113.1	106.8
55°	48.6	38.4	46.6	44.2	47.6	52.4	60.2	69.4	82.1	95.6	88.4
55.5°	35.4	26.7	34.0	32.0	36.9	40.8	49.0	58.3	70.4	79.6	72.3
56°	24.3	18.0	23.3	22.3	26.2	29.1	37.9	47.1	59.2	67.0	61.2
56.5°	16.0	15.5	16.0	16.0	16.0	18.0	26.7	35.9	47.6	54.9	49.5
57°	14.1	13.6	14.6	14.6	13.6	13.6	15.5	25.2	35.9	42.7	38.4
57.5°	12.1	11.2	12.6	13.1	12.1	12.1	12.1	14.1	24.8	30.6	27.2
58°	10.2	9.2	11.2	11.7	11.2	10.7	10.7	11.2	13.1	18.4	16.0
58.5°	8.7	8.3	9.7	10.2	10.2	10.2	9.7	9.7	10.7	13.1	12.1
59°	7.8	7.8	8.7	9.2	9.2	9.2	8.7	8.7	9.2	10.7	10.7
59.5°	7.3	7.3	8.3	8.7	8.7	8.7	8.3	8.3	8.3	9.2	9.7
60°	6.8	6.3	7.3	7.8	8.3	7.8	7.8	7.3	7.8	8.3	8.7
60.5°	6.3	5.8	6.8	7.3	7.8	7.3	6.8	6.8	7.3	7.8	8.3
61°	5.8	5.8	6.3	6.8	6.8	6.8	6.3	6.3	6.3	7.3	7.3
61.5°	5.3	5.3	5.8	6.3	6.8	6.3	5.8	5.8	5.8	6.3	6.8
62°	4.9	4.9	5.3	5.8	6.3	5.8	5.8	5.3	5.3	5.8	6.3
62.5°	4.4	4.4	5.3	5.8	5.8	5.3	5.3	5.3	5.3	5.8	5.8
63°	4.4	4.4	4.9	5.3	5.3	5.3	4.9	4.9	4.9	5.3	5.3
63.5°	3.9	3.9	4.4	4.9	4.9	4.9	4.4	4.4	4.4	4.9	5.3
64°	3.9	3.9	4.4	4.4	4.9	4.4	4.4	4.4	4.4	4.4	4.9
64.5°	3.4	3.4	3.9	4.4	4.4	4.4	3.9	3.9	3.9	4.4	4.4
65°	3.4	3.4	3.9	3.9	3.9	3.9	3.9	3.4	3.4	3.9	4.4
65.5°	2.9	2.9	3.4	3.9	3.9	3.9	3.4	3.4	3.4	3.9	3.9
66°	2.9	2.9	3.4	3.4	3.4	3.4	3.4	2.9	2.9	3.4	3.4



TEST NUMBER: P776599

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRC-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	2.4	2.4	2.4	2.9	2.9	2.9	2.9	2.4	2.4	2.9	2.9
68°	1.9	1.9	2.4	2.9	2.9	2.4	2.4	2.4	2.4	2.4	2.9
68.5°	1.9	1.9	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
69°	1.9	1.9	1.9	2.4	2.4	2.4	1.9	1.9	1.9	2.4	2.4
69.5°	1.5	1.5	1.9	2.4	2.4	1.9	1.9	1.9	1.9	1.9	2.4
70°	1.5	1.5	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
70.5°	1.5	1.5	1.9	1.9	1.9	1.9	1.9	1.5	1.5	1.9	1.9
71°	1.5	1.5	1.5	1.9	1.9	1.9	1.5	1.5	1.5	1.9	1.9
71.5°	1.0	1.0	1.5	1.5	1.9	1.5	1.5	1.5	1.5	1.5	1.9
72°	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
72.5°	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
73°	1.0	1.0	1.0	1.5	1.5	1.5	1.0	1.0	1.0	1.5	1.5
73.5°	1.0	1.0	1.0	1.5	1.5	1.5	1.0	1.0	1.0	1.0	1.5
74°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
74.5°	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
75°	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
75.5°	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
76°	0.5	0.5	0.5	1.0	1.0	1.0	1.0	0.5	0.5	1.0	1.0
76.5°	0.5	0.5	0.5	1.0	1.0	1.0	0.5	0.5	0.5	0.5	1.0
77°	0.5	0.5	0.5	0.5	0.5	0.5	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	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
79.5°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80.5°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.5	0.5	0.5
81°	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.0	0.0	0.5	0.5
81.5°	0.0	0.0	0.0	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.5
82°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0	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: P776599
CATALOG NUMBER: HCDJBL54050CSD-HCD4TRC-5000lm-5000K

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: P776599

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRC-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	6217.1	6217.1	6217.1	6217.1	6217.1	6217.1
0.5°	6222.9	6222.4	6226.8	6231.7	6232.1	6228.8
1°	6226.3	6229.7	6237.0	6243.8	6244.8	6238.9
1.5°	6228.3	6235.1	6243.3	6251.1	6255.0	6248.2
2°	6229.7	6238.0	6243.8	6253.5	6262.3	6256.4
2.5°	6230.7	6237.5	6238.5	6248.7	6264.7	6262.7
3°	6230.2	6234.1	6224.4	6233.6	6261.8	6266.1
3.5°	6229.7	6228.3	6202.5	6210.8	6252.1	6265.6
4°	6229.2	6219.0	6174.4	6176.3	6236.0	6260.8
4.5°	6226.8	6206.9	6138.9	6135.5	6213.2	6251.1
5°	6222.9	6191.4	6096.7	6089.9	6183.1	6235.5
5.5°	6218.6	6172.9	6054.0	6040.9	6148.2	6212.7
6°	6211.8	6152.0	6010.8	5994.7	6114.2	6184.1
6.5°	6200.1	6130.2	5969.0	5952.0	6078.7	6147.2
7°	6183.1	6106.4	5933.1	5915.1	6036.5	6103.5
7.5°	6160.8	6081.2	5903.9	5884.0	5997.2	6054.9
8°	6129.2	6052.5	5879.2	5858.3	5955.4	6002.0
8.5°	6091.3	6021.9	5858.3	5838.9	5912.2	5946.2
9°	6048.6	5986.5	5839.4	5819.9	5867.5	5885.0
9.5°	5999.1	5946.7	5824.8	5802.5	5824.3	5823.8
10°	5942.3	5903.0	5805.9	5784.5	5779.2	5764.6
10.5°	5886.9	5854.4	5785.5	5765.6	5734.5	5707.3
11°	5827.7	5803.9	5762.6	5743.2	5688.4	5652.0
11.5°	5766.0	5751.0	5735.9	5717.5	5643.7	5598.1
12°	5708.3	5698.6	5702.9	5686.4	5598.5	5544.2
12.5°	5652.4	5645.6	5668.0	5650.5	5553.4	5491.2
13°	5595.1	5592.7	5630.6	5614.1	5510.2	5439.8
13.5°	5538.3	5541.7	5589.3	5573.3	5463.1	5388.3
14°	5483.5	5490.3	5546.1	5530.6	5414.5	5333.9
14.5°	5428.1	5440.7	5501.9	5486.4	5364.0	5277.1
15°	5371.8	5388.3	5452.4	5438.8	5311.6	5219.8
15.5°	5316.0	5337.3	5401.4	5390.3	5254.8	5159.6
16°	5255.8	5283.0	5347.5	5336.4	5197.0	5098.0
16.5°	5196.5	5227.6	5292.7	5278.1	5137.8	5031.0
17°	5131.0	5168.9	5234.4	5217.9	5075.2	4966.9
17.5°	5067.4	5109.6	5171.3	5152.8	5010.6	4898.4
18°	4999.4	5047.0	5103.8	5084.4	4944.1	4830.0
18.5°	4931.9	4982.4	5036.3	5012.0	4872.7	4760.0
19°	4860.6	4914.4	4964.5	4936.3	4803.7	4690.6
19.5°	4790.2	4849.4	4892.1	4859.1	4732.9	4619.2
20°	4716.8	4779.0	4819.8	4783.4	4660.5	4547.9
20.5°	4646.0	4711.5	4741.1	4704.7	4587.2	4475.5
21°	4572.6	4639.2	4666.8	4625.1	4513.9	4403.2

TEST NUMBER: P776599

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRC-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	4356.6	4426.5	4437.7	4381.3	4287.2	4182.8
23°	4281.3	4354.2	4357.6	4299.8	4210.4	4108.5
23.5°	4206.1	4278.9	4276.0	4215.8	4128.9	4032.3
24°	4133.2	4204.6	4195.9	4128.4	4050.2	3955.1
24.5°	4059.0	4128.9	4112.8	4042.9	3967.7	3879.3
25°	3981.8	4052.2	4026.9	3958.5	3889.5	3800.2
25.5°	3907.0	3975.4	3945.3	3874.9	3804.1	3722.0
26°	3832.2	3897.8	3864.7	3793.9	3724.9	3641.4
26.5°	3753.1	3820.6	3782.7	3710.8	3642.4	3556.4
27°	3673.5	3741.9	3702.1	3630.2	3558.9	3464.2
27.5°	3594.3	3661.3	3619.1	3548.2	3468.1	3370.5
28°	3514.7	3576.8	3535.1	3464.7	3386.0	3274.4
28.5°	3435.5	3489.0	3451.6	3379.2	3296.2	3174.8
29°	3346.7	3401.1	3366.6	3295.2	3203.5	3073.3
29.5°	3254.9	3309.8	3282.6	3207.4	3111.7	2971.4
30°	3158.3	3215.6	3194.2	3118.0	3017.0	2874.3
30.5°	3059.8	3119.5	3102.0	3026.3	2918.0	2779.1
31°	2968.5	3020.4	3011.2	2934.5	2822.8	2685.9
31.5°	2867.0	2920.4	2918.5	2843.2	2724.7	2595.6
32°	2761.6	2824.3	2827.2	2754.8	2631.5	2505.3
32.5°	2669.4	2729.6	2733.5	2665.5	2539.3	2421.3
33°	2573.7	2638.3	2645.6	2580.1	2448.0	2339.7
33.5°	2478.1	2545.1	2550.4	2494.1	2362.1	2256.7
34°	2387.8	2461.6	2463.0	2407.2	2279.0	2172.7
34.5°	2301.9	2377.6	2379.1	2322.2	2198.0	2088.2
35°	2218.8	2294.6	2291.7	2239.2	2117.4	2007.1
35.5°	2137.3	2213.0	2207.7	2155.2	2040.2	1928.0
36°	2056.7	2132.9	2127.1	2073.2	1962.5	1846.9
36.5°	1976.1	2054.2	2046.0	1989.2	1887.7	1771.2
37°	1896.9	1975.1	1963.9	1906.6	1812.9	1699.8
37.5°	1818.8	1896.9	1888.7	1829.0	1733.3	1628.9
38°	1741.6	1817.8	1809.1	1753.2	1661.5	1558.0
38.5°	1665.3	1742.0	1725.5	1679.4	1590.6	1486.7
39°	1590.1	1672.1	1655.6	1605.1	1519.2	1415.8
39.5°	1518.2	1601.7	1585.7	1531.3	1447.8	1347.8
40°	1448.3	1531.8	1516.3	1457.0	1376.9	1281.8
40.5°	1379.9	1461.9	1446.4	1383.2	1309.9	1216.2
41°	1317.7	1392.0	1376.5	1313.8	1243.9	1150.7
41.5°	1250.7	1325.5	1307.0	1245.8	1179.3	1088.5
42°	1188.1	1260.4	1238.6	1179.8	1115.7	1026.4
42.5°	1126.4	1194.4	1172.5	1116.7	1054.1	967.2
43°	1069.6	1129.8	1106.5	1054.1	992.4	909.4
43.5°	1008.4	1066.2	1042.4	990.9	931.2	854.0

TEST NUMBER: P776599

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRC-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	842.9	884.1	862.3	816.6	756.4	695.8
45.5°	787.0	826.8	804.5	761.8	702.1	646.2
46°	736.0	771.5	749.2	707.9	650.1	597.7
46.5°	684.6	717.6	696.7	656.4	599.1	549.6
47°	636.0	665.2	644.3	606.4	550.6	503.0
47.5°	587.0	614.2	594.3	557.9	503.0	458.3
48°	541.4	565.6	544.8	510.8	459.3	417.5
48.5°	496.7	518.5	499.1	467.6	418.0	376.8
49°	456.4	474.4	455.4	423.9	377.7	338.4
49.5°	416.6	431.6	413.7	383.1	339.9	303.0
50°	376.3	389.9	370.9	343.3	305.4	269.0
50.5°	336.5	351.0	334.0	306.4	270.9	238.4
51°	302.0	314.6	298.1	272.4	239.4	209.3
51.5°	269.5	280.1	265.6	239.8	210.7	181.6
52°	237.9	248.1	233.1	208.8	182.6	160.2
52.5°	209.3	218.5	204.4	181.6	161.2	139.3
53°	183.0	189.8	176.7	160.2	139.3	118.5
53.5°	157.8	165.1	155.9	138.4	118.0	97.6
54°	134.0	144.2	135.0	117.0	96.1	76.7
54.5°	113.6	123.3	114.1	95.6	74.8	61.7
55°	94.2	102.4	93.2	74.3	60.7	48.6
55.5°	76.7	81.1	72.3	59.7	47.1	35.4
56°	65.1	66.0	58.3	47.1	34.5	24.3
56.5°	53.4	52.9	46.1	34.0	22.8	16.0
57°	41.8	39.8	33.0	23.3	15.5	14.1
57.5°	30.1	28.6	22.8	16.0	14.1	12.1
58°	18.4	19.9	16.5	14.1	12.1	10.2
58.5°	14.1	17.5	15.1	12.6	10.2	8.7
59°	12.1	15.5	13.1	10.7	8.7	7.8
59.5°	11.2	13.1	11.7	9.2	7.8	7.3
60°	10.2	10.7	9.7	8.3	7.3	6.8
60.5°	9.2	9.7	9.2	7.8	6.8	6.3
61°	8.7	9.2	8.3	7.3	6.3	5.8
61.5°	7.8	8.3	7.8	6.8	5.8	5.3
62°	7.3	7.8	7.3	6.3	5.3	4.9
62.5°	6.8	7.3	6.8	5.8	4.9	4.4
63°	6.3	6.8	6.3	5.3	4.9	4.4
63.5°	5.8	6.3	5.8	4.9	4.4	3.9
64°	5.3	5.8	5.3	4.4	3.9	3.9
64.5°	5.3	5.3	4.9	4.4	3.9	3.4
65°	4.9	5.3	4.9	3.9	3.4	3.4
65.5°	4.4	4.9	4.4	3.9	3.4	2.9
66°	4.4	4.4	3.9	3.4	2.9	2.9



TEST NUMBER: P776599

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRC-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	3.4	3.9	3.4	2.9	2.4	2.4
68°	3.4	3.4	2.9	2.4	2.4	1.9
68.5°	2.9	3.4	2.9	2.4	1.9	1.9
69°	2.9	2.9	2.9	2.4	1.9	1.9
69.5°	2.4	2.9	2.4	1.9	1.9	1.5
70°	2.4	2.4	2.4	1.9	1.5	1.5
70.5°	2.4	2.4	2.4	1.9	1.5	1.5
71°	1.9	2.4	1.9	1.9	1.5	1.5
71.5°	1.9	1.9	1.9	1.5	1.5	1.0
72°	1.9	1.9	1.9	1.5	1.5	1.0
72.5°	1.9	1.9	1.5	1.5	1.0	1.0
73°	1.5	1.5	1.5	1.5	1.0	1.0
73.5°	1.5	1.5	1.5	1.0	1.0	1.0
74°	1.5	1.5	1.5	1.0	1.0	1.0
74.5°	1.5	1.5	1.5	1.0	1.0	0.5
75°	1.0	1.5	1.0	1.0	1.0	0.5
75.5°	1.0	1.0	1.0	1.0	0.5	0.5
76°	1.0	1.0	1.0	1.0	0.5	0.5
76.5°	1.0	1.0	1.0	0.5	0.5	0.5
77°	1.0	1.0	1.0	0.5	0.5	0.5
77.5°	1.0	1.0	1.0	0.5	0.5	0.5
78°	1.0	1.0	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	0.0
80°	0.5	0.5	0.5	0.5	0.0	0.0
80.5°	0.5	0.5	0.5	0.5	0.0	0.0
81°	0.5	0.5	0.5	0.5	0.0	0.0
81.5°	0.5	0.5	0.5	0.0	0.0	0.0
82°	0.5	0.5	0.5	0.0	0.0	0.0
82.5°	0.5	0.5	0.5	0.0	0.0	0.0
83°	0.5	0.5	0.0	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: P776599
CATALOG NUMBER: HCDJBL54050CSD-HCD4TRC-5000lm-5000K

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



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21.5°	4330.8	4217.2	4208.5	4161.9	4115.3	4104.6	4128.9	4234.7	4359.5	4444.9	4439.6
22°	4258.0	4139.6	4128.9	4080.3	4035.7	4028.4	4054.6	4164.3	4286.2	4370.7	4363.9



44°	799.7	710.3	690.4	646.2	634.1	669.0	703.0	740.9	790.9	856.5	870.5
44.5°	746.2	661.3	643.3	598.6	586.0	624.9	658.9	692.8	737.5	802.1	816.6



66.5°	2.4	2.4	2.9	3.4	3.4	3.4	2.9	2.9	2.9	3.4	3.4
67°	2.4	2.4	2.9	2.9	3.4	2.9	2.9	2.9	2.9	2.9	3.4



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°	4500.3	4569.2	4591.1	4545.0	4439.1	4330.8
22°	4427.0	4496.9	4513.4	4464.9	4365.3	4258.0



44°	951.6	1004.5	980.3	931.2	870.5	799.7
44.5°	895.8	943.9	921.5	873.5	814.2	746.2

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66.5°	3.9	4.4	3.9	3.4	2.9	2.4
67°	3.9	3.9	3.4	2.9	2.4	2.4

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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)