

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: P776264

Luminaire Tested: HCDJBL3040CSD-HCD42TRC-4000lm-5000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776264
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B049)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS3040CSD-HCD42TRC-4000lm-5000K
Description: 4 INCH ROUND NARROW SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT
Ballast/Driver: -

Summary

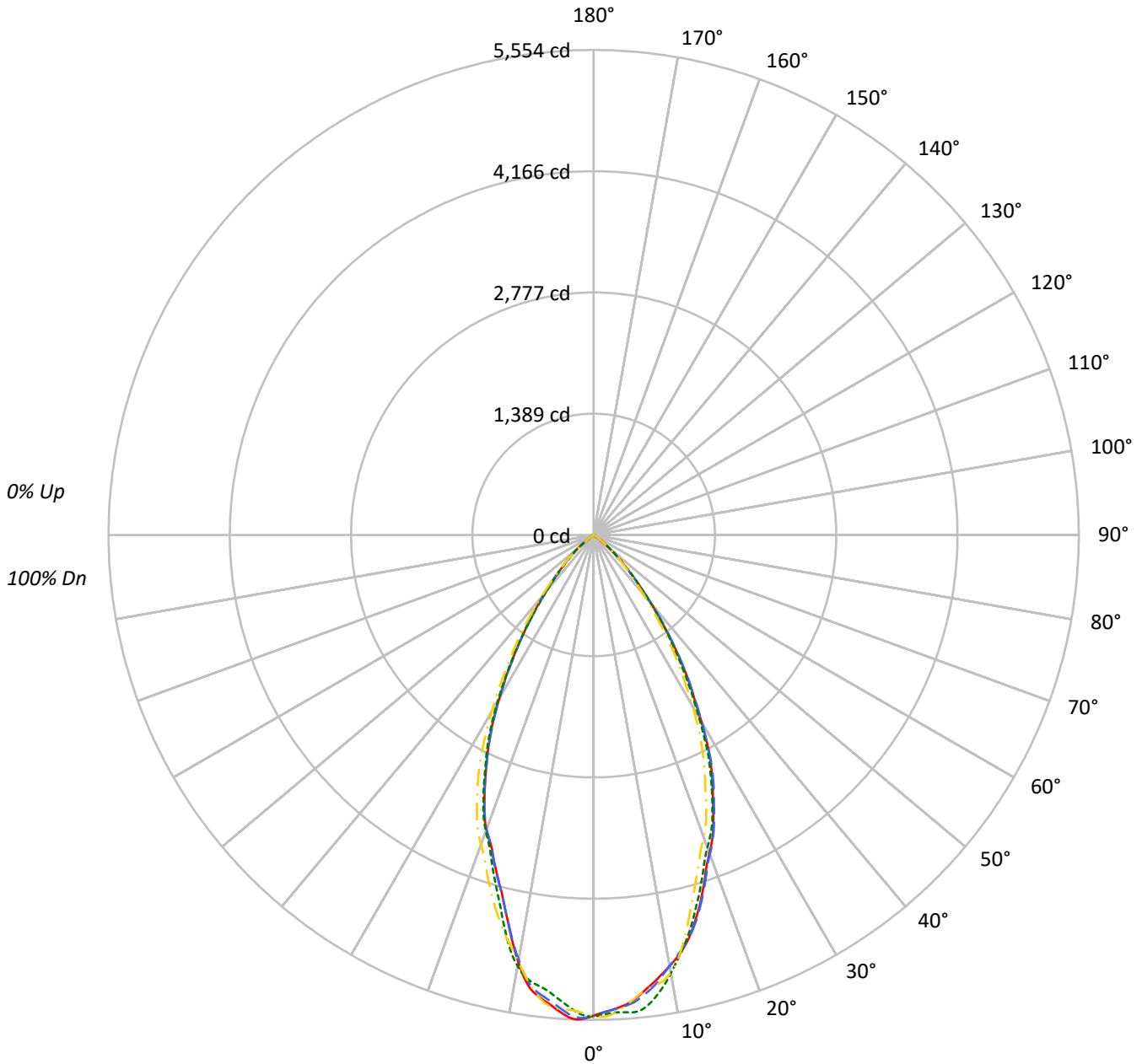
Lumens per Lamp: N/A
Luminaire Lumens: 4532.1 lumens
Efficiency: N/A
Efficacy: 117.7 lumens/watt
Spacing Criteria (0/90/45): 0.82 / 0.81 / 0.84
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 38.5
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					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								
1	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	93								
2	108	103	99	96	106	101	98	94	98	95	92	95	93	90	92	90	89	87								
3	102	96	91	87	100	95	90	86	92	88	85	89	86	84	87	85	82	81								
4	97	90	84	80	95	88	83	79	86	82	78	84	80	77	82	79	76	75								
5	92	84	78	74	90	83	77	73	81	76	73	79	75	72	78	74	71	70								
6	87	78	72	68	86	78	72	68	76	71	67	75	70	67	73	70	66	65								
7	83	74	68	63	82	73	67	63	72	67	63	71	66	63	69	65	62	61								
8	79	69	63	59	78	69	63	59	68	62	59	67	62	59	66	61	58	57								
9	75	65	59	55	74	65	59	55	64	59	55	63	58	55	62	58	55	53								
10	72	62	56	52	71	61	56	52	61	55	52	60	55	52	59	55	52	50								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	693143	693143	693143	693143
5°	674744	692999	684572	668238
10°	640515	651224	634867	640975
15°	591136	582979	541248	553821
20°	518764	509939	480515	483636
25°	448156	444296	403499	407706
30°	358109	350204	314121	318757
35°	261117	253712	221264	222785
40°	166897	165485	141893	138739
45°	93207	95752	84842	82440
50°	42368	45266	42055	40450
55°	2523	2414	1975	2238
60°	730	931	831	831
65°	357	476	476	476
70°	294	294	294	294
75°	194	194	194	194
80°	0	0	0	0
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 95752 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	502.6	11.1
10°-20°	1216.0	26.8
20°-30°	1395.0	30.8
30°-40°	975.1	21.5
40°-50°	397.7	8.8
50°-60°	43.8	1.0
60°-70°	1.7	0.0
70°-80°	0.4	0.0
80°-90°	0.0	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°	3113.5	68.7
0°-40°	4088.6	90.2
0°-60°	4530.1	100.0
0°-90°	4532.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4532.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	5508	5508	5508	5508	5508	
5°	5341	5486	5419	5290	5341	498
15°	4537	4474	4154	4251	4537	1258
25°	3227	3200	2906	2936	3227	1470
35°	1700	1651	1440	1450	1700	1055
45°	524	538	477	463	524	420
55°	12	11	9	10	12	42
65°	1	2	2	2	1	2
75°	0	0	0	0	0	0
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°	5507.7	5507.7	5507.7	5507.7	5507.7	5507.7	5507.7	5507.7	5507.7	5507.7	5507.7
0.5°	5490.1	5489.7	5489.7	5490.9	5510.1	5511.7	5516.7	5521.6	5523.6	5523.2	5517.9
1°	5475.3	5474.1	5476.2	5479.4	5500.3	5507.2	5518.7	5531.0	5539.2	5538.8	5528.5
1.5°	5461.0	5459.4	5463.1	5469.6	5491.3	5498.7	5513.8	5533.4	5550.2	5551.0	5533.4
2°	5447.5	5443.8	5450.8	5462.6	5482.3	5486.8	5501.1	5526.9	5554.3	5557.6	5529.3
2.5°	5434.4	5427.5	5438.5	5458.6	5476.6	5473.3	5481.5	5509.7	5546.5	5554.3	5515.4
3°	5420.9	5408.2	5427.5	5458.6	5474.5	5458.6	5457.3	5485.6	5529.7	5539.2	5492.9
3.5°	5406.2	5386.1	5415.6	5463.5	5476.2	5443.4	5429.1	5456.9	5506.0	5517.9	5465.9
4°	5389.4	5362.4	5402.9	5470.0	5481.5	5426.6	5397.6	5425.0	5478.6	5490.5	5437.3
4.5°	5367.7	5332.9	5387.4	5477.4	5485.6	5407.0	5364.5	5392.3	5449.1	5461.8	5407.4
5°	5341.1	5301.0	5369.0	5480.2	5485.6	5382.5	5331.3	5359.9	5418.9	5433.6	5378.4
5.5°	5310.0	5267.5	5344.4	5474.5	5476.2	5353.8	5299.0	5330.9	5391.0	5404.5	5351.4
6°	5277.3	5233.9	5315.8	5458.6	5455.7	5320.3	5269.9	5305.1	5365.3	5375.9	5326.8
6.5°	5243.3	5204.1	5285.1	5430.7	5427.5	5289.2	5245.4	5283.8	5339.9	5347.7	5302.7
7°	5211.8	5179.1	5253.2	5392.3	5392.3	5258.9	5227.0	5265.4	5311.7	5316.6	5276.5
7.5°	5179.5	5157.0	5219.2	5344.0	5350.9	5229.8	5212.7	5248.7	5280.2	5277.7	5244.6
8°	5148.4	5137.4	5182.4	5286.3	5307.6	5203.2	5199.2	5228.6	5239.7	5229.0	5203.7
8.5°	5113.6	5120.2	5141.1	5219.6	5260.1	5175.4	5184.8	5202.0	5185.6	5168.9	5151.3
9°	5079.7	5104.2	5098.1	5148.8	5210.2	5145.1	5162.3	5165.6	5121.8	5097.3	5090.7
9.5°	5044.9	5089.1	5055.1	5078.0	5153.7	5114.0	5132.0	5118.1	5046.1	5015.0	5017.9
10°	5012.2	5076.0	5012.2	5008.1	5096.0	5079.3	5093.6	5060.9	4968.0	4926.7	4942.6
10.5°	4977.8	5062.9	4970.8	4945.5	5037.1	5040.0	5044.1	4996.6	4885.7	4830.1	4864.9
11°	4944.2	5047.8	4931.6	4887.8	4978.6	4994.6	4986.4	4926.7	4800.6	4732.7	4785.9
11.5°	4907.0	5025.3	4892.3	4836.6	4923.0	4942.2	4917.7	4853.8	4712.3	4634.9	4702.8
12°	4867.3	4991.7	4853.4	4790.0	4864.9	4882.1	4844.8	4778.9	4625.9	4535.9	4618.6
12.5°	4821.9	4945.9	4812.5	4747.0	4805.5	4813.3	4763.4	4701.2	4538.4	4440.6	4532.6
13°	4774.4	4889.8	4771.2	4704.1	4746.2	4740.9	4681.2	4621.4	4451.6	4351.8	4452.8
13.5°	4719.6	4826.4	4723.3	4657.0	4682.0	4661.1	4595.6	4536.3	4369.0	4267.9	4371.4
14°	4662.7	4757.3	4671.7	4604.6	4613.2	4580.1	4511.4	4457.8	4290.8	4192.2	4294.9
14.5°	4601.4	4685.3	4614.9	4550.2	4544.1	4496.2	4427.9	4376.7	4218.0	4120.6	4224.5
15°	4537.1	4609.1	4554.7	4492.9	4474.5	4415.2	4349.7	4301.5	4154.2	4054.3	4161.1
15.5°	4473.7	4537.1	4491.7	4436.1	4405.0	4339.1	4274.5	4227.4	4089.9	3993.8	4098.9
16°	4407.8	4463.5	4427.1	4375.9	4336.2	4265.0	4200.0	4155.8	4028.1	3934.0	4037.6
16.5°	4339.9	4387.4	4360.4	4312.9	4267.5	4190.6	4124.3	4081.3	3963.5	3873.9	3973.3
17°	4267.9	4310.9	4290.8	4245.4	4195.9	4116.1	4053.1	4006.9	3900.1	3813.7	3910.3
17.5°	4196.7	4231.9	4220.0	4177.5	4123.1	4041.2	3981.5	3933.2	3835.4	3754.4	3846.1
18°	4123.1	4154.2	4146.4	4108.3	4053.1	3967.2	3911.5	3864.1	3774.5	3698.8	3786.3
18.5°	4051.5	4079.3	4073.6	4039.6	3982.3	3897.6	3844.8	3796.2	3720.5	3649.3	3729.9
19°	3984.8	4009.7	4005.2	3975.4	3918.1	3834.6	3785.9	3739.3	3673.4	3606.3	3683.2
19.5°	3926.3	3948.4	3944.3	3919.7	3858.3	3781.0	3734.4	3687.7	3630.9	3565.4	3635.4
20°	3873.5	3892.7	3890.3	3869.8	3807.6	3731.1	3685.7	3637.8	3587.9	3522.0	3587.9
20.5°	3826.0	3840.3	3840.3	3824.4	3760.1	3681.6	3634.5	3583.0	3538.4	3471.3	3533.5
21°	3772.0	3784.7	3784.7	3776.9	3712.3	3627.6	3574.4	3520.8	3481.1	3414.0	3472.9



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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°	3581.3	3594.4	3601.0	3613.7	3546.6	3444.7	3366.1	3293.7	3267.5	3211.1	3268.3
23°	3505.7	3523.7	3529.4	3548.2	3478.6	3375.5	3288.8	3212.7	3195.1	3144.8	3194.7
23.5°	3432.0	3454.5	3459.4	3481.9	3408.7	3308.8	3210.2	3138.2	3122.7	3078.1	3121.5
24°	3360.8	3385.8	3388.2	3411.1	3339.5	3243.8	3142.7	3063.8	3050.7	3011.8	3048.2
24.5°	3292.9	3321.5	3321.9	3337.9	3268.8	3175.1	3075.2	2989.3	2978.2	2945.1	2975.0
25°	3227.4	3258.1	3253.2	3260.2	3199.6	3108.8	3007.7	2914.8	2905.8	2878.4	2901.3
25.5°	3164.8	3196.3	3189.0	3185.3	3128.0	3042.9	2940.2	2845.3	2836.7	2813.4	2828.1
26°	3099.0	3134.1	3120.2	3105.5	3056.4	2976.6	2872.7	2778.2	2768.8	2743.8	2759.8
26.5°	3031.4	3068.7	3051.1	3027.3	2984.4	2910.3	2805.2	2709.4	2697.2	2672.2	2687.7
27°	2960.7	2998.3	2976.2	2944.3	2912.4	2833.8	2736.0	2641.5	2625.6	2598.6	2614.9
27.5°	2886.6	2925.5	2899.3	2865.7	2840.4	2758.1	2664.0	2570.7	2551.5	2522.9	2541.3
28°	2807.2	2849.0	2817.5	2783.5	2754.9	2679.2	2590.4	2493.8	2475.8	2445.5	2464.3
28.5°	2723.8	2770.0	2731.9	2704.9	2667.3	2598.6	2509.4	2416.1	2396.0	2363.7	2385.0
29°	2635.8	2692.2	2644.8	2623.5	2580.5	2518.8	2427.9	2337.5	2317.9	2282.7	2307.6
29.5°	2550.7	2610.0	2558.5	2544.5	2494.6	2436.1	2345.3	2255.7	2239.7	2201.7	2228.3
30°	2464.3	2527.0	2474.2	2465.2	2409.9	2353.5	2263.5	2175.5	2161.6	2124.7	2150.1
30.5°	2379.7	2443.9	2391.5	2386.2	2326.5	2271.6	2181.2	2099.0	2083.8	2044.6	2071.6
31°	2297.8	2359.2	2311.7	2304.8	2250.0	2194.3	2102.2	2025.3	2008.5	1968.0	1998.3
31.5°	2218.4	2277.4	2236.0	2225.8	2165.3	2115.3	2027.4	1952.1	1934.1	1893.6	1923.0
32°	2141.9	2195.9	2161.2	2146.4	2088.7	2037.6	1953.3	1882.1	1859.6	1826.1	1850.2
32.5°	2066.6	2114.5	2087.5	2068.7	2011.8	1957.0	1880.5	1810.5	1783.9	1754.5	1778.2
33°	1994.2	2035.6	2015.9	1992.6	1941.4	1881.3	1807.7	1741.4	1712.3	1686.5	1706.2
33.5°	1921.0	1957.4	1941.0	1918.5	1863.3	1804.0	1737.3	1673.4	1639.9	1618.6	1636.6
34°	1847.8	1879.7	1867.0	1846.5	1789.7	1731.1	1666.1	1604.7	1573.6	1556.0	1567.1
34.5°	1773.3	1800.7	1792.5	1776.1	1719.3	1655.9	1595.3	1533.5	1505.3	1489.7	1500.8
35°	1699.6	1723.4	1718.9	1704.5	1651.4	1584.3	1522.5	1465.2	1440.2	1426.3	1435.3
35.5°	1626.8	1647.7	1645.6	1634.6	1581.0	1513.1	1451.7	1398.5	1376.4	1363.3	1371.1
36°	1554.4	1573.6	1572.0	1563.8	1512.7	1446.8	1380.9	1333.0	1315.4	1303.6	1306.8
36.5°	1480.3	1500.8	1500.8	1490.6	1446.0	1375.6	1310.5	1265.1	1252.0	1241.4	1244.7
37°	1412.0	1433.3	1432.5	1422.6	1382.9	1308.9	1241.8	1199.2	1190.6	1184.9	1183.3
37.5°	1343.7	1365.8	1364.1	1354.7	1315.0	1243.4	1176.7	1138.3	1130.5	1128.5	1124.0
38°	1275.3	1297.8	1296.2	1286.4	1252.0	1182.5	1113.3	1077.3	1073.6	1073.6	1065.4
38.5°	1207.0	1230.3	1227.9	1218.5	1189.0	1121.1	1053.2	1017.2	1018.4	1020.4	1010.2
39°	1138.7	1162.8	1159.5	1150.5	1129.7	1062.2	994.7	958.7	964.8	969.7	956.6
39.5°	1075.3	1098.6	1095.3	1089.2	1065.4	1005.7	937.8	902.6	912.4	919.0	905.5
40°	1015.9	1037.2	1031.5	1029.8	1007.3	951.7	883.0	847.8	863.7	871.1	855.1
40.5°	956.6	978.3	968.5	973.0	950.5	899.3	830.2	796.6	817.5	824.9	808.9
41°	897.7	921.8	910.0	916.5	896.9	849.8	780.7	747.1	772.9	781.5	763.9
41.5°	842.0	866.2	853.5	862.1	843.7	801.5	734.0	702.9	730.3	739.3	720.9
42°	792.1	814.6	800.7	808.9	796.2	756.1	690.2	660.8	688.6	699.2	680.0
42.5°	743.0	763.9	749.2	756.1	747.9	712.8	649.7	623.1	650.6	660.8	640.3
43°	695.6	714.4	700.5	707.0	702.9	670.6	612.1	588.0	612.9	623.6	603.1
43.5°	648.1	665.3	654.2	658.3	659.2	630.1	576.5	555.6	576.5	587.1	567.5



TEST NUMBER: P776264

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	523.7	532.3	528.2	530.3	538.0	521.3	481.2	464.4	476.7	485.3	470.5
45.5°	483.2	492.2	489.4	493.4	502.0	485.7	452.1	437.0	446.4	453.3	441.1
46°	448.4	455.8	452.9	457.8	465.6	452.5	423.5	410.0	416.9	422.2	412.4
46.5°	412.4	419.4	417.3	422.7	432.5	421.4	396.9	384.6	389.9	394.4	385.8
47°	380.1	385.0	384.2	390.3	400.2	393.2	370.7	359.2	363.3	367.0	359.6
47.5°	346.6	351.5	351.5	358.8	370.3	364.6	344.5	333.9	336.3	339.2	333.1
48°	317.1	321.2	320.8	328.1	340.4	336.3	318.3	308.5	309.3	311.4	306.9
48.5°	288.9	292.5	292.5	299.9	310.5	307.7	292.1	283.5	282.7	283.5	280.7
49°	264.3	266.4	266.4	272.9	281.1	279.5	268.4	260.2	259.4	260.6	257.8
49.5°	240.2	241.0	241.4	246.3	255.3	254.5	245.9	238.1	236.5	238.1	235.7
50°	216.4	216.4	216.9	221.8	231.2	230.4	221.8	215.6	214.8	216.0	213.2
50.5°	191.5	191.5	191.1	195.6	205.8	205.0	198.0	191.9	191.9	192.7	189.8
51°	164.5	164.1	163.3	166.9	178.0	177.6	171.0	165.7	166.1	166.1	163.3
51.5°	134.6	134.2	133.8	134.2	148.5	148.1	143.6	139.1	139.5	138.7	136.2
52°	110.1	109.7	109.7	110.1	118.2	116.6	113.3	110.9	111.3	109.7	107.2
52.5°	85.5	85.1	85.9	85.9	90.4	88.0	85.5	84.3	83.5	82.6	80.6
53°	61.0	61.0	61.8	61.4	74.5	72.4	70.0	69.1	68.3	67.9	66.3
53.5°	36.4	36.8	38.1	37.6	58.5	56.9	54.8	54.0	53.6	53.2	51.6
54°	22.1	22.5	23.3	23.3	42.1	40.9	39.7	38.9	38.9	38.5	37.2
54.5°	13.1	13.5	14.3	13.9	26.2	25.4	24.5	24.1	24.1	23.7	22.5
55°	11.5	11.5	11.9	11.9	11.0	10.2	9.4	9.0	9.0	9.0	9.0
55.5°	9.4	9.4	9.8	9.8	8.6	8.2	7.4	7.4	7.0	7.0	7.4
56°	7.4	7.4	7.8	8.2	7.4	7.0	6.5	6.1	6.1	6.1	6.5
56.5°	5.3	5.3	5.7	6.1	6.5	6.1	5.7	5.7	5.3	5.7	5.7
57°	4.9	4.9	5.3	5.7	6.1	5.7	5.3	4.9	4.9	4.9	5.3
57.5°	4.5	4.5	4.9	5.3	5.3	5.3	4.9	4.5	4.5	4.5	4.9
58°	4.1	4.1	4.5	4.9	4.9	4.9	4.5	4.5	4.1	4.1	4.5
58.5°	3.7	3.7	4.1	4.5	4.5	4.5	4.1	4.1	3.7	4.1	4.1
59°	3.3	3.7	3.7	4.1	4.5	4.1	3.7	3.7	3.7	3.7	3.7
59.5°	3.3	3.3	3.7	3.7	4.1	3.7	3.7	3.3	3.3	3.3	3.7
60°	2.9	2.9	3.3	3.7	3.7	3.7	3.3	3.3	3.3	3.3	3.3
60.5°	2.9	2.9	2.9	3.3	3.3	3.3	2.9	2.9	2.9	2.9	2.9
61°	2.5	2.5	2.9	2.9	3.3	2.9	2.9	2.9	2.5	2.9	2.9
61.5°	2.5	2.5	2.5	2.9	2.9	2.9	2.5	2.5	2.5	2.5	2.5
62°	2.0	2.0	2.5	2.5	2.9	2.5	2.5	2.5	2.5	2.5	2.5
62.5°	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.0	2.0	2.0	2.5
63°	2.0	2.0	2.0	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0
63.5°	1.6	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
64°	1.6	1.6	1.6	2.0	2.0	2.0	1.6	1.6	1.6	1.6	2.0
64.5°	1.6	1.6	1.6	1.6	2.0	1.6	1.6	1.6	1.6	1.6	1.6
65°	1.2	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
65.5°	1.2	1.2	1.6	1.6	1.6	1.6	1.6	1.2	1.2	1.6	1.6
66°	1.2	1.2	1.2	1.6	1.6	1.6	1.2	1.2	1.2	1.2	1.2



TEST NUMBER: P776264

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRC-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	0.8	0.8	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
68°	0.8	0.8	0.8	1.2	1.2	1.2	1.2	0.8	0.8	0.8	1.2
68.5°	0.8	0.8	0.8	0.8	1.2	1.2	0.8	0.8	0.8	0.8	0.8
69°	0.8	0.8	0.8	0.8	1.2	0.8	0.8	0.8	0.8	0.8	0.8
69.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
70°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
70.5°	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
71°	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
71.5°	0.4	0.4	0.4	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.8
72°	0.4	0.4	0.4	0.4	0.8	0.8	0.4	0.4	0.4	0.4	0.4
72.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
73°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
73.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
74°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
74.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
75°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
75.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
76°	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
76.5°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
77°	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.4	0.4
77.5°	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.4
78°	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P776264
CATALOG NUMBER: HCDJBL3040CSD-HCD42TRC-4000lm-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: P776264

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRC-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	5507.7	5507.7	5507.7	5507.7	5507.7	5507.7
0.5°	5510.1	5515.0	5503.2	5497.0	5492.9	5490.1
1°	5513.4	5507.7	5492.1	5483.9	5479.0	5475.3
1.5°	5508.9	5492.5	5477.8	5470.8	5466.7	5461.0
2°	5495.0	5471.2	5459.8	5459.4	5456.5	5447.5
2.5°	5471.6	5443.8	5441.4	5451.2	5449.6	5434.4
3°	5443.0	5413.5	5423.4	5446.3	5445.5	5420.9
3.5°	5410.3	5382.0	5405.0	5444.2	5444.2	5406.2
4°	5378.0	5351.8	5385.7	5443.0	5444.2	5389.4
4.5°	5345.6	5320.7	5363.2	5440.6	5441.8	5367.7
5°	5315.8	5289.6	5337.9	5432.0	5433.2	5341.1
5.5°	5288.3	5260.9	5307.2	5413.1	5416.4	5310.0
6°	5264.2	5236.8	5275.3	5385.3	5390.6	5277.3
6.5°	5245.4	5216.7	5242.5	5349.7	5356.3	5243.3
7°	5229.8	5199.6	5210.6	5308.4	5315.4	5211.8
7.5°	5215.1	5184.0	5178.7	5260.5	5261.8	5179.5
8°	5198.3	5165.2	5144.7	5211.4	5208.6	5148.4
8.5°	5173.0	5139.8	5110.8	5153.7	5145.1	5113.6
9°	5138.2	5107.1	5072.7	5091.5	5081.7	5079.7
9.5°	5091.1	5065.4	5031.4	5026.1	5014.6	5044.9
10°	5033.9	5015.8	4986.8	4963.9	4953.7	5012.2
10.5°	4966.8	4962.2	4938.9	4903.3	4897.6	4977.8
11°	4894.7	4898.8	4886.6	4848.1	4845.2	4944.2
11.5°	4820.3	4824.0	4828.5	4794.1	4796.1	4907.0
12°	4739.7	4743.8	4765.4	4741.7	4752.4	4867.3
12.5°	4656.2	4660.3	4697.5	4687.3	4709.0	4821.9
13°	4574.0	4574.0	4626.7	4632.9	4666.0	4774.4
13.5°	4488.4	4487.6	4550.2	4572.7	4619.0	4719.6
14°	4400.5	4404.2	4470.9	4511.8	4569.9	4662.7
14.5°	4318.6	4325.6	4393.1	4449.2	4516.3	4601.4
15°	4240.5	4250.7	4316.2	4387.0	4461.9	4537.1
15.5°	4166.0	4178.3	4242.1	4324.8	4407.0	4473.7
16°	4092.8	4106.3	4168.1	4261.0	4348.5	4407.8
16.5°	4019.6	4036.3	4094.4	4194.3	4287.1	4339.9
17°	3945.1	3965.5	4022.8	4126.8	4221.7	4267.9
17.5°	3871.0	3894.4	3949.2	4059.2	4155.4	4196.7
18°	3799.4	3825.6	3878.0	3990.9	4087.9	4123.1
18.5°	3732.3	3765.5	3811.3	3923.8	4020.4	4051.5
19°	3674.2	3709.4	3754.0	3864.5	3959.0	3984.8
19.5°	3621.9	3660.7	3703.3	3815.4	3907.0	3926.3
20°	3571.1	3611.2	3652.9	3771.2	3861.6	3873.5
20.5°	3515.5	3560.9	3602.2	3725.8	3816.2	3826.0
21°	3453.7	3503.2	3547.0	3675.0	3767.1	3772.0

TEST NUMBER: P776264

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRC-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	3239.3	3300.7	3364.1	3492.2	3586.7	3581.3
23°	3166.5	3227.4	3295.8	3421.8	3514.2	3505.7
23.5°	3094.0	3154.6	3228.7	3349.4	3442.2	3432.0
24°	3021.2	3079.7	3161.1	3278.6	3367.4	3360.8
24.5°	2948.8	3007.3	3094.0	3208.6	3294.9	3292.9
25°	2876.0	2936.1	3022.0	3139.0	3221.7	3227.4
25.5°	2810.9	2868.6	2954.9	3069.1	3148.0	3164.8
26°	2744.2	2800.3	2884.1	2995.4	3071.5	3099.0
26.5°	2675.1	2731.9	2812.5	2919.3	2995.8	3031.4
27°	2605.5	2662.4	2735.2	2839.5	2915.6	2960.7
27.5°	2531.5	2588.3	2659.5	2756.1	2834.6	2886.6
28°	2456.2	2513.0	2578.1	2666.9	2752.8	2807.2
28.5°	2375.2	2434.9	2495.4	2581.0	2675.9	2723.8
29°	2294.1	2356.3	2410.7	2495.0	2592.4	2635.8
29.5°	2214.4	2273.3	2328.1	2411.2	2512.2	2550.7
30°	2137.8	2193.5	2247.1	2328.1	2429.6	2464.3
30.5°	2062.6	2112.9	2164.4	2248.7	2349.0	2379.7
31°	1991.8	2033.5	2086.3	2168.5	2268.4	2297.8
31.5°	1920.2	1955.8	2009.8	2090.8	2189.0	2218.4
32°	1853.5	1878.8	1934.5	2014.3	2109.2	2141.9
32.5°	1782.7	1806.0	1859.6	1935.3	2031.1	2066.6
33°	1715.2	1734.0	1787.2	1860.0	1956.6	1994.2
33.5°	1645.2	1664.0	1714.0	1786.4	1883.8	1921.0
34°	1574.8	1592.8	1641.1	1714.0	1810.9	1847.8
34.5°	1506.1	1520.4	1571.2	1644.8	1740.1	1773.3
35°	1439.4	1450.1	1499.6	1574.4	1668.9	1699.6
35.5°	1373.1	1382.9	1434.1	1508.6	1600.6	1626.8
36°	1309.7	1315.4	1368.6	1462.7	1529.4	1554.4
36.5°	1245.5	1248.3	1303.6	1394.4	1452.1	1480.3
37°	1186.1	1181.2	1238.1	1325.3	1385.0	1412.0
37.5°	1123.1	1118.6	1173.1	1256.5	1318.3	1343.7
38°	1062.6	1060.1	1112.5	1187.8	1251.2	1275.3
38.5°	1003.3	1002.4	1055.2	1126.4	1184.5	1207.0
39°	943.9	949.2	1000.0	1067.1	1122.7	1138.7
39.5°	886.6	894.0	946.0	1009.0	1060.9	1075.3
40°	832.2	844.5	893.2	951.3	1002.8	1015.9
40.5°	780.7	794.6	844.5	897.3	946.0	956.6
41°	734.0	750.0	797.0	844.9	891.1	897.7
41.5°	690.7	706.2	752.0	795.8	838.4	842.0
42°	650.1	664.9	711.5	748.8	786.0	792.1
42.5°	613.7	627.6	669.8	704.6	737.3	743.0
43°	579.4	590.8	630.1	659.6	689.4	695.6
43.5°	547.5	556.5	592.0	617.0	643.6	648.1



TEST NUMBER: P776264

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRC-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	459.5	463.2	488.5	501.2	517.2	523.7
45.5°	432.1	434.5	455.8	466.0	479.9	483.2
46°	405.5	406.7	423.9	432.9	445.6	448.4
46.5°	380.1	378.5	392.8	400.2	411.6	412.4
47°	355.1	351.9	362.9	368.6	379.3	380.1
47.5°	330.2	325.7	333.5	338.8	348.6	346.6
48°	305.2	300.3	306.9	310.5	319.1	317.1
48.5°	279.9	276.6	281.1	283.5	290.9	288.9
49°	257.8	253.7	257.8	259.0	266.0	264.3
49.5°	235.7	230.8	234.4	234.4	241.4	240.2
50°	212.8	206.6	210.3	210.7	217.3	216.4
50.5°	189.0	181.3	185.3	185.3	191.9	191.5
51°	162.4	153.0	156.7	158.3	164.9	164.5
51.5°	135.8	128.9	132.2	133.4	135.0	134.6
52°	106.4	104.7	107.2	108.4	110.1	110.1
52.5°	81.4	80.6	82.6	83.5	85.1	85.5
53°	66.7	56.5	57.7	58.5	60.6	61.0
53.5°	52.4	32.3	33.1	34.0	35.6	36.4
54°	37.6	19.2	20.0	20.5	21.7	22.1
54.5°	23.3	11.5	12.3	12.3	12.7	13.1
55°	9.4	10.2	10.6	10.2	10.6	11.5
55.5°	7.8	9.0	9.0	9.0	9.0	9.4
56°	7.0	7.4	7.4	7.4	7.4	7.4
56.5°	6.1	6.1	5.7	5.7	5.3	5.3
57°	5.7	5.3	5.3	4.9	4.9	4.9
57.5°	5.3	4.9	4.9	4.5	4.5	4.5
58°	4.9	4.5	4.5	4.1	4.1	4.1
58.5°	4.5	4.5	4.1	4.1	3.7	3.7
59°	4.1	4.1	3.7	3.7	3.7	3.3
59.5°	3.7	3.7	3.7	3.3	3.3	3.3
60°	3.7	3.3	3.3	3.3	2.9	2.9
60.5°	3.3	3.3	3.3	2.9	2.9	2.9
61°	2.9	2.9	2.9	2.9	2.5	2.5
61.5°	2.9	2.9	2.9	2.5	2.5	2.5
62°	2.5	2.5	2.5	2.5	2.0	2.0
62.5°	2.5	2.5	2.5	2.0	2.0	2.0
63°	2.5	2.5	2.0	2.0	2.0	2.0
63.5°	2.0	2.0	2.0	2.0	1.6	1.6
64°	2.0	2.0	2.0	1.6	1.6	1.6
64.5°	2.0	2.0	1.6	1.6	1.6	1.6
65°	1.6	1.6	1.6	1.6	1.2	1.2
65.5°	1.6	1.6	1.6	1.2	1.2	1.2
66°	1.6	1.6	1.2	1.2	1.2	1.2



TEST NUMBER: P776264

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRC-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	1.2	1.2	1.2	1.2	0.8	0.8
68°	1.2	1.2	1.2	0.8	0.8	0.8
68.5°	1.2	1.2	0.8	0.8	0.8	0.8
69°	0.8	0.8	0.8	0.8	0.8	0.8
69.5°	0.8	0.8	0.8	0.8	0.8	0.8
70°	0.8	0.8	0.8	0.8	0.8	0.8
70.5°	0.8	0.8	0.8	0.8	0.8	0.4
71°	0.8	0.8	0.8	0.8	0.4	0.4
71.5°	0.8	0.8	0.8	0.4	0.4	0.4
72°	0.8	0.8	0.4	0.4	0.4	0.4
72.5°	0.4	0.4	0.4	0.4	0.4	0.4
73°	0.4	0.4	0.4	0.4	0.4	0.4
73.5°	0.4	0.4	0.4	0.4	0.4	0.4
74°	0.4	0.4	0.4	0.4	0.4	0.4
74.5°	0.4	0.4	0.4	0.4	0.4	0.4
75°	0.4	0.4	0.4	0.4	0.4	0.4
75.5°	0.4	0.4	0.4	0.4	0.4	0.4
76°	0.4	0.4	0.4	0.4	0.4	0.0
76.5°	0.4	0.4	0.4	0.4	0.0	0.0
77°	0.4	0.4	0.4	0.4	0.0	0.0
77.5°	0.4	0.4	0.4	0.0	0.0	0.0
78°	0.4	0.4	0.0	0.0	0.0	0.0
78.5°	0.4	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0
82°	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
83°	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
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: P776264
CATALOG NUMBER: HCDJBL3040CSD-HCD42TRC-4000lm-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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Scaled Data Report





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

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21.5°	3712.7	3725.8	3727.0	3729.1	3660.7	3571.1	3510.6	3450.8	3415.6	3348.9	3408.7
22°	3647.2	3660.3	3664.4	3674.6	3606.3	3511.0	3441.0	3375.1	3343.6	3281.8	3340.4



44°	605.6	619.5	609.6	612.1	617.0	591.2	543.4	522.5	541.7	552.0	533.9
44.5°	564.2	574.5	567.5	569.5	576.1	556.0	512.7	493.4	508.2	518.0	501.6



66.5°	1.2	1.2	1.2	1.2	1.6	1.2	1.2	1.2	1.2	1.2	1.2	1.2
67°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2



89°	0.0	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	0.0

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21.5°	3388.2	3441.0	3490.1	3619.4	3713.1	3712.7
22°	3315.4	3372.3	3426.3	3559.7	3651.7	3647.2



44°	516.4	523.3	556.9	576.5	599.0	605.6
44.5°	487.3	493.0	521.3	538.0	556.5	564.2

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66.5°	1.2	1.2	1.2	1.2	1.2	1.2
67°	1.2	1.2	1.2	1.2	1.2	1.2

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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)