

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: P776261

Luminaire Tested: HCDJBL3040CSD-HCD42TRC-4000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776261
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-3000K
Description: 4 INCH ROUND NARROW SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

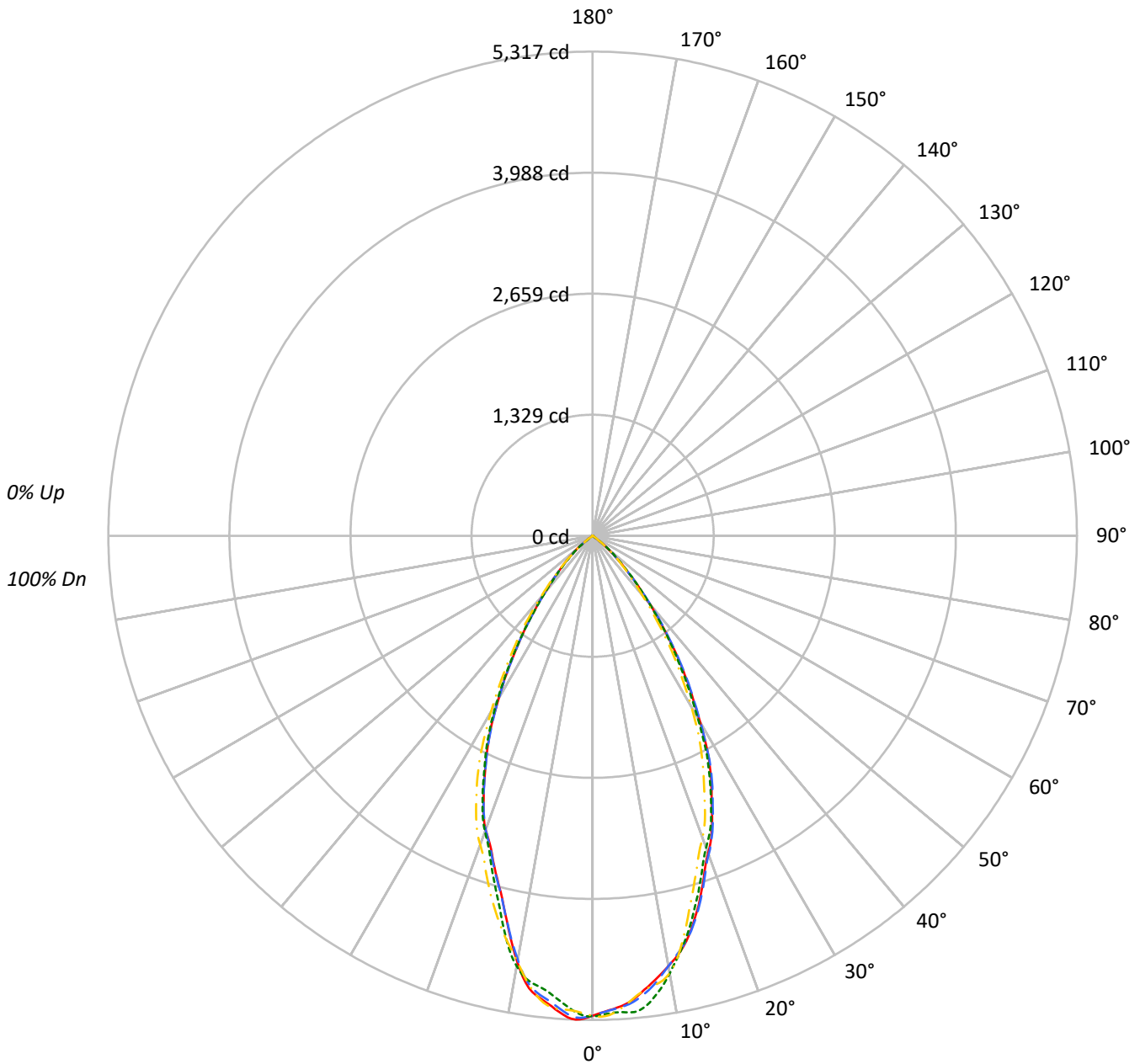
Lumens per Lamp: N/A
Luminaire Lumens: 4338.2 lumens
Efficiency: N/A
Efficacy: 112.7 lumens/watt
Spacing Criteria (0/90/45): 0.82 / 0.81 / 0.84
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	663468	663468	663468	663468
5°	645865	663336	655264	639637
10°	613091	623353	607686	613551
15°	565833	558029	518082	530121
20°	496559	488109	459944	462931
25°	428980	425286	386239	390252
30°	342793	335221	300679	305111
35°	249948	242850	211800	213244
40°	159767	158404	135831	132808
45°	89221	91659	81212	78898
50°	40567	43328	40254	38727
55°	2414	2326	1887	2150
60°	680	881	780	780
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: 91659 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	481.1	11.1
10°-20°	1164.0	26.8
20°-30°	1335.3	30.8
30°-40°	933.3	21.5
40°-50°	380.7	8.8
50°-60°	41.9	1.0
60°-70°	1.6	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°	2980.3	68.7
0°-40°	3913.6	90.2
0°-60°	4336.2	100.0
0°-90°	4338.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4338.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	5272	5272	5272	5272	5272	
5°	5112	5251	5187	5063	5112	477
15°	4343	4283	3976	4069	4343	1204
25°	3089	3063	2782	2810	3089	1407
35°	1627	1581	1379	1388	1627	1010
45°	501	515	456	443	501	402
55°	11	11	9	10	11	41
65°	1	2	2	2	1	1
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°	5271.9	5271.9	5271.9	5271.9	5271.9	5271.9	5271.9	5271.9	5271.9	5271.9	5271.9
0.5°	5255.1	5254.7	5254.7	5255.9	5274.3	5275.8	5280.5	5285.2	5287.2	5286.8	5281.7
1°	5241.0	5239.8	5241.8	5244.9	5264.9	5271.5	5282.5	5294.2	5302.1	5301.7	5291.9
1.5°	5227.3	5225.7	5229.2	5235.5	5256.3	5263.3	5277.8	5296.6	5312.7	5313.4	5296.6
2°	5214.3	5210.8	5217.5	5228.8	5247.6	5251.9	5265.7	5290.3	5316.6	5319.7	5292.7
2.5°	5201.8	5195.2	5205.7	5224.9	5242.2	5239.0	5246.9	5273.9	5309.1	5316.6	5279.4
3°	5188.9	5176.7	5195.2	5224.9	5240.2	5224.9	5223.7	5250.8	5293.1	5302.1	5257.8
3.5°	5174.8	5155.6	5183.8	5229.6	5241.8	5210.4	5196.7	5223.4	5270.4	5281.7	5232.0
4°	5158.7	5132.9	5171.7	5235.9	5246.9	5194.4	5166.6	5192.8	5244.1	5255.5	5204.6
4.5°	5138.0	5104.7	5156.8	5242.9	5250.8	5175.6	5134.8	5161.5	5215.9	5228.1	5176.0
5°	5112.5	5074.1	5139.2	5245.7	5250.8	5152.1	5103.1	5130.5	5186.9	5201.0	5148.2
5.5°	5082.8	5042.0	5115.7	5240.2	5241.8	5124.7	5072.2	5102.7	5160.3	5173.2	5122.3
6°	5051.4	5009.9	5088.2	5224.9	5222.2	5092.5	5044.4	5078.1	5135.6	5145.8	5098.8
6.5°	5018.9	4981.3	5058.9	5198.3	5195.2	5062.8	5020.9	5057.7	5111.3	5118.8	5075.7
7°	4988.8	4957.4	5028.3	5161.5	5161.5	5033.8	5003.3	5040.1	5084.3	5089.0	5050.6
7.5°	4957.8	4936.3	4995.8	5115.3	5121.9	5006.0	4989.5	5024.0	5054.2	5051.8	5020.1
8°	4928.1	4917.5	4960.6	5060.0	5080.4	4980.5	4976.6	5004.8	5015.4	5005.2	4980.9
8.5°	4894.8	4901.0	4921.0	4996.2	5035.0	4953.9	4962.9	4979.4	4963.7	4947.6	4930.8
9°	4862.3	4885.8	4879.9	4928.4	4987.2	4924.9	4941.4	4944.5	4902.6	4879.1	4872.8
9.5°	4829.0	4871.3	4838.8	4860.7	4933.1	4895.2	4912.4	4899.1	4830.1	4800.4	4803.1
10°	4797.6	4858.7	4797.6	4793.7	4877.9	4861.9	4875.6	4844.2	4755.3	4715.8	4731.1
10.5°	4764.7	4846.2	4758.1	4733.8	4821.5	4824.3	4828.2	4782.8	4676.6	4623.4	4656.6
11°	4732.6	4831.7	4720.5	4678.6	4765.5	4780.8	4773.0	4715.8	4595.2	4530.1	4581.1
11.5°	4697.0	4810.2	4682.9	4629.6	4712.3	4730.7	4707.2	4646.1	4510.6	4436.5	4501.6
12°	4659.0	4778.1	4645.7	4585.0	4656.6	4673.1	4637.5	4574.4	4427.9	4341.8	4420.9
12.5°	4615.5	4734.2	4606.5	4543.9	4599.9	4607.3	4559.5	4500.0	4344.1	4250.5	4338.6
13°	4570.1	4680.5	4567.0	4502.7	4543.1	4538.0	4480.8	4423.6	4261.1	4165.5	4262.3
13.5°	4517.6	4619.8	4521.1	4457.7	4481.6	4461.6	4398.9	4342.2	4182.0	4085.2	4184.3
14°	4463.2	4553.6	4471.8	4407.6	4415.8	4384.1	4318.3	4267.0	4107.2	4012.8	4111.1
14.5°	4404.4	4484.7	4417.4	4355.5	4349.6	4303.8	4238.4	4189.4	4037.5	3944.2	4043.7
15°	4342.9	4411.9	4359.8	4300.6	4283.0	4226.2	4163.6	4117.4	3976.4	3880.8	3983.0
15.5°	4282.2	4342.9	4299.5	4246.2	4216.4	4153.4	4091.5	4046.5	3914.9	3822.8	3923.5
16°	4219.2	4272.4	4237.6	4188.6	4150.6	4082.5	4020.2	3977.9	3855.7	3765.7	3864.7
16.5°	4154.2	4199.6	4173.7	4128.3	4084.8	4011.2	3947.8	3906.6	3793.9	3708.1	3803.3
17°	4085.2	4126.4	4107.2	4063.7	4016.3	3939.9	3879.6	3835.4	3733.2	3650.5	3742.9
17.5°	4017.1	4050.8	4039.4	3998.7	3946.6	3868.3	3811.1	3764.9	3671.3	3593.7	3681.5
18°	3946.6	3976.4	3968.9	3932.5	3879.6	3797.4	3744.1	3698.7	3612.9	3540.5	3624.3
18.5°	3878.1	3904.7	3899.2	3866.7	3811.9	3730.8	3680.3	3633.7	3561.2	3493.1	3570.2
19°	3814.2	3838.1	3833.8	3805.2	3750.4	3670.5	3623.9	3579.2	3516.2	3451.9	3525.6
19.5°	3758.2	3779.4	3775.4	3751.9	3693.2	3619.2	3574.5	3529.9	3475.4	3412.8	3479.8
20°	3707.7	3726.1	3723.8	3704.2	3644.6	3571.4	3527.9	3482.1	3434.3	3371.3	3434.3
20.5°	3662.3	3676.0	3676.0	3660.7	3599.2	3524.0	3479.0	3429.6	3386.9	3322.7	3382.2
21°	3610.6	3622.7	3622.7	3615.3	3553.4	3472.3	3421.4	3370.1	3332.1	3267.9	3324.3



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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°	3428.1	3440.6	3446.9	3459.0	3394.8	3297.3	3222.1	3152.7	3127.7	3073.6	3128.5
23°	3355.6	3372.8	3378.3	3396.3	3329.8	3231.1	3148.0	3075.2	3058.3	3010.2	3058.0
23.5°	3285.1	3306.6	3311.3	3332.9	3262.8	3167.2	3072.8	3003.9	2989.0	2946.3	2987.9
24°	3217.0	3240.9	3243.2	3265.1	3196.6	3105.0	3008.2	2932.6	2920.1	2882.9	2917.7
24.5°	3152.0	3179.4	3179.8	3195.0	3128.8	3039.2	2943.6	2861.4	2850.8	2819.1	2847.6
25°	3089.3	3118.7	3114.0	3120.6	3062.7	2975.7	2879.0	2790.1	2781.5	2755.2	2777.1
25.5°	3029.4	3059.5	3052.5	3048.9	2994.1	2912.7	2814.4	2723.5	2715.3	2692.9	2707.0
26°	2966.3	3000.0	2986.7	2972.6	2925.6	2849.2	2749.7	2659.3	2650.3	2626.4	2641.6
26.5°	2901.7	2937.3	2920.5	2897.8	2856.7	2785.8	2685.1	2593.5	2581.7	2557.8	2572.7
27°	2833.9	2870.0	2848.8	2818.3	2787.7	2712.5	2618.9	2528.5	2513.2	2487.3	2503.0
27.5°	2763.0	2800.3	2775.2	2743.1	2718.8	2640.1	2550.0	2460.7	2442.3	2414.9	2432.5
28°	2687.1	2727.0	2696.9	2664.4	2636.9	2564.5	2479.5	2387.1	2369.8	2340.9	2358.9
28.5°	2607.2	2651.4	2615.0	2589.2	2553.1	2487.3	2402.0	2312.7	2293.5	2262.5	2282.9
29°	2523.0	2577.0	2531.6	2511.2	2470.1	2411.0	2324.0	2237.5	2218.7	2185.0	2208.9
29.5°	2441.5	2498.3	2448.9	2435.6	2387.9	2331.8	2244.9	2159.1	2143.9	2107.4	2132.9
30°	2358.9	2418.8	2368.3	2359.7	2306.8	2252.7	2166.6	2082.4	2069.1	2033.8	2058.1
30.5°	2277.8	2339.3	2289.2	2284.1	2226.9	2174.4	2087.9	2009.1	1994.6	1957.0	1982.9
31°	2199.5	2258.2	2212.8	2206.1	2153.7	2100.4	2012.3	1938.6	1922.6	1883.8	1912.8
31.5°	2123.5	2179.9	2140.3	2130.5	2072.6	2024.8	1940.6	1868.5	1851.3	1812.5	1840.7
32°	2050.3	2102.0	2068.7	2054.6	1999.3	1950.4	1869.7	1801.6	1780.0	1747.9	1771.0
32.5°	1978.2	2024.0	1998.2	1980.2	1925.7	1873.2	1800.0	1733.0	1707.6	1679.4	1702.1
33°	1908.9	1948.4	1929.6	1907.3	1858.4	1800.8	1730.3	1666.8	1639.0	1614.4	1633.2
33.5°	1838.8	1873.6	1858.0	1836.4	1783.5	1726.8	1662.9	1601.8	1569.7	1549.3	1566.6
34°	1768.7	1799.2	1787.1	1767.5	1713.1	1657.0	1594.8	1536.0	1506.3	1489.4	1500.0
34.5°	1697.4	1723.6	1715.8	1700.1	1645.7	1585.0	1527.0	1467.9	1440.9	1426.0	1436.5
35°	1626.9	1649.6	1645.3	1631.6	1580.7	1516.4	1457.3	1402.5	1378.6	1365.3	1373.9
35.5°	1557.2	1577.2	1575.2	1564.6	1513.3	1448.3	1389.6	1338.6	1317.5	1305.0	1312.4
36°	1487.9	1506.3	1504.7	1496.9	1447.9	1384.9	1321.8	1276.0	1259.1	1247.8	1250.9
36.5°	1417.0	1436.5	1436.5	1426.8	1384.1	1316.7	1254.4	1211.0	1198.4	1188.2	1191.4
37°	1351.6	1371.9	1371.1	1361.7	1323.8	1252.9	1188.6	1147.9	1139.7	1134.2	1132.6
37.5°	1286.2	1307.3	1305.7	1296.7	1258.7	1190.2	1126.4	1089.6	1082.1	1080.2	1075.8
38°	1220.8	1242.3	1240.7	1231.3	1198.4	1131.9	1065.7	1031.2	1027.7	1027.7	1019.8
38.5°	1155.3	1177.7	1175.3	1166.3	1138.1	1073.1	1008.1	973.6	974.8	976.8	967.0
39°	1089.9	1113.1	1109.9	1101.3	1081.3	1016.7	952.1	917.6	923.5	928.2	915.7
39.5°	1029.2	1051.6	1048.4	1042.6	1019.8	962.7	897.6	864.0	873.4	879.6	866.7
40°	972.5	992.8	987.3	985.8	964.2	911.0	845.2	811.5	826.8	833.8	818.5
40.5°	915.7	936.4	927.0	931.3	909.8	860.8	794.6	762.5	782.5	789.6	774.3
41°	859.3	882.4	871.0	877.3	858.5	813.4	747.3	715.1	739.8	748.0	731.2
41.5°	806.0	829.1	817.0	825.2	807.6	767.2	702.6	672.8	699.1	707.7	690.1
42°	758.2	779.8	766.4	774.3	762.1	723.8	660.7	632.5	659.1	669.3	650.9
42.5°	711.2	731.2	717.1	723.8	715.9	682.2	621.9	596.5	622.7	632.5	612.9
43°	665.8	683.8	670.5	676.8	672.8	641.9	585.9	562.8	586.7	596.9	577.3
43.5°	620.4	636.8	626.2	630.2	630.9	603.1	551.8	531.9	551.8	562.0	543.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	501.3	509.5	505.6	507.6	515.0	499.0	460.6	444.5	456.3	464.5	450.4
45.5°	462.5	471.1	468.4	472.3	480.5	464.9	432.8	418.3	427.3	433.9	422.2
46°	429.2	436.3	433.5	438.2	445.7	433.2	405.4	392.4	399.1	404.2	394.8
46.5°	394.8	401.4	399.5	404.6	414.0	403.4	379.9	368.1	373.2	377.5	369.3
47°	363.8	368.5	367.8	373.6	383.0	376.4	354.8	343.9	347.8	351.3	344.3
47.5°	331.7	336.4	336.4	343.5	354.4	349.0	329.8	319.6	321.9	324.7	318.8
48°	303.5	307.4	307.0	314.1	325.8	321.9	304.7	295.3	296.1	298.0	293.7
48.5°	276.5	280.0	280.0	287.1	297.3	294.5	279.6	271.4	270.6	271.4	268.7
49°	253.0	255.0	255.0	261.2	269.1	267.5	256.9	249.1	248.3	249.5	246.7
49.5°	229.9	230.7	231.1	235.8	244.4	243.6	235.4	227.9	226.4	227.9	225.6
50°	207.2	207.2	207.6	212.3	221.3	220.5	212.3	206.4	205.6	206.8	204.0
50.5°	183.3	183.3	182.9	187.2	197.0	196.2	189.6	183.7	183.7	184.5	181.7
51°	157.4	157.0	156.3	159.8	170.4	170.0	163.7	158.6	159.0	159.0	156.3
51.5°	128.9	128.5	128.1	128.5	142.2	141.8	137.5	133.2	133.6	132.8	130.4
52°	105.4	105.0	105.0	105.4	113.2	111.6	108.5	106.1	106.5	105.0	102.6
52.5°	81.9	81.5	82.2	82.2	86.6	84.2	81.9	80.7	79.9	79.1	77.2
53°	58.4	58.4	59.1	58.7	71.3	69.3	67.0	66.2	65.4	65.0	63.4
53.5°	34.9	35.2	36.4	36.0	56.0	54.4	52.5	51.7	51.3	50.9	49.3
54°	21.1	21.5	22.3	22.3	40.3	39.2	38.0	37.2	37.2	36.8	35.6
54.5°	12.5	12.9	13.7	13.3	25.1	24.3	23.5	23.1	23.1	22.7	21.5
55°	11.0	11.0	11.4	11.4	10.6	9.8	9.0	8.6	8.6	8.6	8.6
55.5°	9.0	9.0	9.4	9.4	8.2	7.8	7.0	7.0	6.7	6.7	7.0
56°	7.0	7.0	7.4	7.8	7.0	6.7	6.3	5.9	5.9	5.9	6.3
56.5°	5.1	5.1	5.5	5.9	6.3	5.9	5.5	5.5	5.1	5.5	5.5
57°	4.7	4.7	5.1	5.5	5.9	5.5	5.1	4.7	4.7	4.7	5.1
57.5°	4.3	4.3	4.7	5.1	5.1	5.1	4.7	4.3	4.3	4.3	4.7
58°	3.9	3.9	4.3	4.7	4.7	4.7	4.3	4.3	3.9	3.9	4.3
58.5°	3.5	3.5	3.9	4.3	4.3	4.3	3.9	3.9	3.5	3.9	3.9
59°	3.1	3.5	3.5	3.9	4.3	3.9	3.5	3.5	3.5	3.5	3.5
59.5°	3.1	3.1	3.5	3.5	3.9	3.5	3.5	3.1	3.1	3.1	3.5
60°	2.7	2.7	3.1	3.5	3.5	3.5	3.1	3.1	3.1	3.1	3.1
60.5°	2.7	2.7	2.7	3.1	3.1	3.1	2.7	2.7	2.7	2.7	2.7
61°	2.3	2.3	2.7	2.7	3.1	2.7	2.7	2.7	2.3	2.7	2.7
61.5°	2.3	2.3	2.3	2.7	2.7	2.7	2.3	2.3	2.3	2.3	2.3
62°	2.0	2.0	2.3	2.3	2.7	2.3	2.3	2.3	2.3	2.3	2.3
62.5°	2.0	2.0	2.0	2.3	2.3	2.3	2.3	2.0	2.0	2.0	2.3
63°	2.0	2.0	2.0	2.0	2.3	2.3	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: P776261
 CATALOG NUMBER: HCDJBL3040CSD-HCD42TRC-4000lm-3000K

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: P776261
CATALOG NUMBER: HCDJBL3040CSD-HCD42TRC-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: P776261

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRC-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	5271.9	5271.9	5271.9	5271.9	5271.9	5271.9
0.5°	5274.3	5279.0	5267.6	5261.7	5257.8	5255.1
1°	5277.4	5271.9	5257.0	5249.2	5244.5	5241.0
1.5°	5273.1	5257.4	5243.3	5236.7	5232.8	5227.3
2°	5259.8	5237.1	5226.1	5225.7	5223.0	5214.3
2.5°	5237.5	5210.8	5208.5	5217.9	5216.3	5201.8
3°	5210.0	5181.8	5191.2	5213.2	5212.4	5188.9
3.5°	5178.7	5151.7	5173.6	5211.2	5211.2	5174.8
4°	5147.8	5122.7	5155.2	5210.0	5211.2	5158.7
4.5°	5116.8	5092.9	5133.7	5207.7	5208.9	5138.0
5°	5088.2	5063.2	5109.4	5199.5	5200.6	5112.5
5.5°	5062.0	5035.8	5080.0	5181.4	5184.6	5082.8
6°	5038.9	5012.7	5049.5	5154.8	5159.9	5051.4
6.5°	5020.9	4993.5	5018.1	5120.7	5127.0	5018.9
7°	5006.0	4977.0	4987.6	5081.2	5087.8	4988.8
7.5°	4991.9	4962.1	4957.0	5035.4	5036.5	4957.8
8°	4975.8	4944.1	4924.5	4988.4	4985.6	4928.1
8.5°	4951.6	4919.8	4892.0	4933.1	4924.9	4894.8
9°	4918.3	4888.5	4855.6	4873.6	4864.2	4862.3
9.5°	4873.2	4848.6	4816.0	4811.0	4800.0	4829.0
10°	4818.4	4801.2	4773.4	4751.4	4741.6	4797.6
10.5°	4754.2	4749.9	4727.5	4693.5	4688.0	4764.7
11°	4685.2	4689.2	4677.4	4640.6	4637.8	4732.6
11.5°	4614.0	4617.5	4621.8	4588.9	4590.9	4697.0
12°	4536.8	4540.7	4561.5	4538.8	4548.9	4659.0
12.5°	4456.9	4460.8	4496.5	4486.7	4507.4	4615.5
13°	4378.2	4378.2	4428.7	4434.6	4466.3	4570.1
13.5°	4296.3	4295.6	4355.5	4377.0	4421.3	4517.6
14°	4212.1	4215.7	4279.5	4318.7	4374.3	4463.2
14.5°	4133.8	4140.5	4205.1	4258.7	4323.0	4404.4
15°	4059.0	4068.8	4131.5	4199.2	4270.9	4342.9
15.5°	3987.7	3999.5	4060.6	4139.7	4218.4	4282.2
16°	3917.6	3930.5	3989.7	4078.6	4162.4	4219.2
16.5°	3847.5	3863.6	3919.2	4014.7	4103.6	4154.2
17°	3776.2	3795.8	3850.6	3950.1	4041.0	4085.2
17.5°	3705.3	3727.7	3780.1	3885.5	3977.5	4017.1
18°	3636.8	3661.9	3712.0	3820.1	3912.9	3946.6
18.5°	3572.6	3604.3	3648.2	3755.9	3848.3	3878.1
19°	3517.0	3550.6	3593.3	3699.1	3789.5	3814.2
19.5°	3466.8	3504.0	3544.8	3652.1	3739.8	3758.2
20°	3418.3	3456.6	3496.6	3609.8	3696.3	3707.7
20.5°	3365.0	3408.5	3448.0	3566.3	3652.9	3662.3
21°	3305.9	3353.3	3395.2	3517.7	3605.9	3610.6

TEST NUMBER: P776261

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRC-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	3100.6	3159.4	3220.1	3342.7	3433.2	3428.1
23°	3030.9	3089.3	3154.7	3275.3	3363.8	3355.6
23.5°	2961.6	3019.6	3090.5	3206.0	3294.9	3285.1
24°	2891.9	2947.9	3025.8	3138.2	3223.2	3217.0
24.5°	2822.6	2878.6	2961.6	3071.3	3153.9	3152.0
25°	2752.9	2810.4	2892.7	3004.7	3083.8	3089.3
25.5°	2690.6	2745.8	2828.5	2937.7	3013.3	3029.4
26°	2626.8	2680.4	2760.7	2867.2	2940.1	2966.3
26.5°	2560.6	2615.0	2692.2	2794.4	2867.6	2901.7
27°	2494.0	2548.4	2618.1	2718.0	2790.9	2833.9
27.5°	2423.1	2477.5	2545.7	2638.1	2713.3	2763.0
28°	2351.0	2405.5	2467.7	2552.7	2635.0	2687.1
28.5°	2273.5	2330.7	2388.6	2470.5	2561.4	2607.2
29°	2195.9	2255.5	2307.6	2388.2	2481.5	2523.0
29.5°	2119.6	2176.0	2228.5	2308.0	2404.7	2441.5
30°	2046.3	2099.6	2150.9	2228.5	2325.6	2358.9
30.5°	1974.3	2022.4	2071.8	2152.5	2248.4	2277.8
31°	1906.5	1946.5	1997.0	2075.7	2171.3	2199.5
31.5°	1838.0	1872.1	1923.8	2001.3	2095.3	2123.5
32°	1774.1	1798.4	1851.7	1928.1	2018.9	2050.3
32.5°	1706.4	1728.7	1780.0	1852.5	1944.1	1978.2
33°	1641.8	1659.8	1710.7	1780.4	1872.8	1908.9
33.5°	1574.8	1592.8	1640.6	1709.9	1803.1	1838.8
34°	1507.4	1524.7	1570.9	1640.6	1733.4	1768.7
34.5°	1441.6	1455.3	1503.9	1574.4	1665.7	1697.4
35°	1377.8	1388.0	1435.4	1507.0	1597.5	1626.9
35.5°	1314.4	1323.8	1372.7	1444.0	1532.1	1557.2
36°	1253.7	1259.1	1310.0	1400.1	1464.0	1487.9
36.5°	1192.2	1194.9	1247.8	1334.7	1389.9	1417.0
37°	1135.4	1130.7	1185.1	1268.5	1325.7	1351.6
37.5°	1075.1	1070.8	1122.8	1202.7	1261.9	1286.2
38°	1017.1	1014.7	1064.9	1136.9	1197.6	1220.8
38.5°	960.3	959.5	1010.0	1078.2	1133.8	1155.3
39°	903.5	908.6	957.2	1021.4	1074.7	1089.9
39.5°	848.7	855.7	905.5	965.8	1015.5	1029.2
40°	796.6	808.4	855.0	910.6	959.9	972.5
40.5°	747.3	760.6	808.4	858.9	905.5	915.7
41°	702.6	717.9	762.9	808.7	853.0	859.3
41.5°	661.1	676.0	719.8	761.7	802.5	806.0
42°	622.3	636.4	681.1	716.7	752.3	758.2
42.5°	587.5	600.8	641.1	674.4	705.7	711.2
43°	554.6	565.5	603.1	631.3	659.9	665.8
43.5°	524.0	532.6	566.7	590.6	616.1	620.4



TEST NUMBER: P776261

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRC-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	439.8	443.3	467.6	479.8	495.0	501.3
45.5°	413.6	415.9	436.3	446.1	459.4	462.5
46°	388.1	389.3	405.7	414.4	426.5	429.2
46.5°	363.8	362.3	376.0	383.0	394.0	394.8
47°	339.9	336.8	347.4	352.9	363.1	363.8
47.5°	316.1	311.7	319.2	324.3	333.7	331.7
48°	292.2	287.5	293.7	297.3	305.5	303.5
48.5°	267.9	264.8	269.1	271.4	278.5	276.5
49°	246.7	242.8	246.7	247.9	254.6	253.0
49.5°	225.6	220.9	224.4	224.4	231.1	229.9
50°	203.7	197.8	201.3	201.7	208.0	207.2
50.5°	180.9	173.5	177.4	177.4	183.7	183.3
51°	155.5	146.5	150.0	151.6	157.8	157.4
51.5°	130.0	123.4	126.5	127.7	129.2	128.9
52°	101.8	100.3	102.6	103.8	105.4	105.4
52.5°	77.9	77.2	79.1	79.9	81.5	81.9
53°	63.8	54.0	55.2	56.0	58.0	58.4
53.5°	50.1	30.9	31.7	32.5	34.1	34.9
54°	36.0	18.4	19.2	19.6	20.8	21.1
54.5°	22.3	11.0	11.7	11.7	12.1	12.5
55°	9.0	9.8	10.2	9.8	10.2	11.0
55.5°	7.4	8.6	8.6	8.6	8.6	9.0
56°	6.7	7.0	7.0	7.0	7.0	7.0
56.5°	5.9	5.9	5.5	5.5	5.1	5.1
57°	5.5	5.1	5.1	4.7	4.7	4.7
57.5°	5.1	4.7	4.7	4.3	4.3	4.3
58°	4.7	4.3	4.3	3.9	3.9	3.9
58.5°	4.3	4.3	3.9	3.9	3.5	3.5
59°	3.9	3.9	3.5	3.5	3.5	3.1
59.5°	3.5	3.5	3.5	3.1	3.1	3.1
60°	3.5	3.1	3.1	3.1	2.7	2.7
60.5°	3.1	3.1	3.1	2.7	2.7	2.7
61°	2.7	2.7	2.7	2.7	2.3	2.3
61.5°	2.7	2.7	2.7	2.3	2.3	2.3
62°	2.3	2.3	2.3	2.3	2.0	2.0
62.5°	2.3	2.3	2.3	2.0	2.0	2.0
63°	2.3	2.3	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: P776261

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRC-4000lm-3000K

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: P776261

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRC-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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Scaled Data Report





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

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21.5°	3553.8	3566.3	3567.5	3569.4	3504.0	3418.3	3360.3	3303.1	3269.4	3205.6	3262.8
22°	3491.1	3503.6	3507.6	3517.4	3451.9	3360.7	3293.7	3230.7	3200.5	3141.4	3197.4



44°	579.6	592.9	583.5	585.9	590.6	565.9	520.1	500.1	518.5	528.3	511.1
44.5°	540.1	549.9	543.2	545.2	551.4	532.2	490.7	472.3	486.4	495.8	480.2



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°	3243.2	3293.7	3340.7	3464.5	3554.2	3553.8
22°	3173.5	3227.9	3279.6	3407.3	3495.4	3491.1



44°	494.3	500.9	533.0	551.8	573.4	579.6
44.5°	466.4	471.9	499.0	515.0	532.6	540.1

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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)