

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: P776544

Luminaire Tested: HCDJBS4050CSD-HCD42TRMW-4500lm-5000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776544
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156A001)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD42TRMW-4500lm-5000K
Description: 4 INCH ROUND NARROW MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT
Ballast/Driver: -

Summary

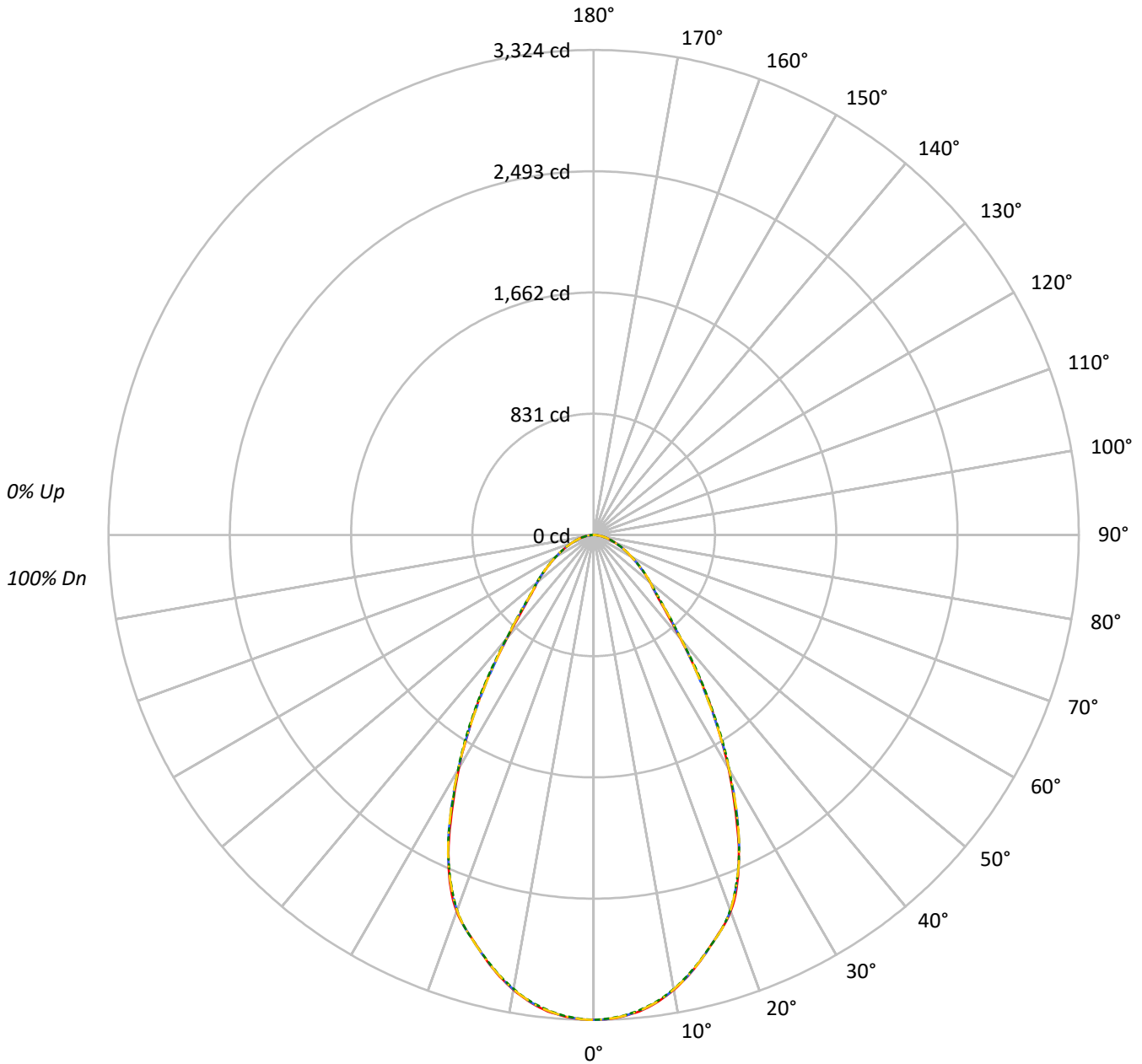
Lumens per Lamp: N/A
Luminaire Lumens: 4292.1 lumens
Efficiency: N/A
Efficacy: 97.5 lumens/watt
Spacing Criteria (0/90/45): 0.96 / 0.97 / 0.95
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 44
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					100			
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	91	89					89			
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80					80			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	74	80	76	73	71					71			
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64					64			
5	85	75	68	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58					58			
6	80	69	62	57	78	68	61	56	67	60	56	65	60	55	64	59	55	53					53			
7	75	64	57	52	74	63	56	52	62	56	51	61	55	51	59	54	51	49					49			
8	71	60	52	48	70	59	52	47	58	52	47	57	51	47	56	51	47	45					45			
9	67	56	49	44	66	55	48	44	54	48	44	53	48	44	52	47	43	42					42			
10	63	52	45	41	62	52	45	41	51	45	41	50	44	41	49	44	40	39					39			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	418312	418312	418312	418312
5°	415362	414453	415362	414453
10°	404625	403718	404625	403718
15°	386725	386269	386725	386269
20°	367722	366410	367722	366410
25°	326376	327418	326376	327418
30°	268520	269944	268520	269944
35°	208313	210571	208313	210571
40°	151307	153935	151307	153935
45°	114565	117412	114565	117412
50°	98657	99440	98657	99440
55°	85746	86734	85746	86734
60°	74956	75636	74956	75636
65°	65870	66406	65870	66406
70°	58138	58469	58138	58469
75°	51104	51104	51104	51104
80°	44209	43847	44209	43847
85°	35377	35377	35377	35377

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 117412 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	309.7	7.2
10°-20°	833.8	19.4
20°-30°	1067.8	24.9
30°-40°	846.1	19.7
40°-50°	518.1	12.1
50°-60°	354.2	8.3
60°-70°	221.7	5.2
70°-80°	112.4	2.6
80°-90°	28.4	0.7
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°	2211.3	51.5
0°-40°	3057.4	71.2
0°-60°	3929.6	91.6
0°-90°	4292.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4292.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3324	3324	3324	3324	3324	
5°	3288	3281	3288	3281	3288	310
15°	2968	2965	2968	2965	2968	834
25°	2350	2358	2350	2358	2350	1065
35°	1356	1371	1356	1371	1356	845
45°	644	660	644	660	644	511
55°	391	395	391	395	391	352
65°	221	223	221	223	221	221
75°	105	105	105	105	105	112
85°	24	24	24	24	24	28
90°	0	1	0	1	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°	3323.9	3323.9	3323.9	3323.9	3323.9	3323.9	3323.9	3323.9	3323.9	3323.9	3323.9
0.5°	3324.4	3323.9	3323.0	3322.6	3321.2	3322.6	3323.0	3323.9	3324.4	3323.9	3323.0
1°	3323.0	3322.6	3322.1	3321.7	3319.9	3321.7	3322.1	3322.6	3323.0	3322.6	3322.1
1.5°	3321.2	3320.4	3320.4	3319.5	3318.1	3319.5	3320.4	3320.4	3321.2	3320.4	3320.4
2°	3318.6	3318.1	3317.2	3316.8	3315.0	3316.8	3317.2	3318.1	3318.6	3318.1	3317.2
2.5°	3315.5	3314.6	3313.7	3313.2	3311.0	3313.2	3313.7	3314.6	3315.5	3314.6	3313.7
3°	3311.0	3310.1	3309.2	3308.3	3306.1	3308.3	3309.2	3310.1	3311.0	3310.1	3309.2
3.5°	3306.1	3305.2	3303.9	3303.0	3301.7	3303.0	3303.9	3305.2	3306.1	3305.2	3303.9
4°	3300.3	3299.9	3298.1	3297.2	3295.0	3297.2	3298.1	3299.9	3300.3	3299.9	3298.1
4.5°	3294.1	3293.2	3291.4	3290.5	3287.9	3290.5	3291.4	3293.2	3294.1	3293.2	3291.4
5°	3287.9	3286.5	3284.7	3283.8	3280.7	3283.8	3284.7	3286.5	3287.9	3286.5	3284.7
5.5°	3281.2	3278.1	3275.8	3274.9	3272.3	3274.9	3275.8	3278.1	3281.2	3278.1	3275.8
6°	3270.9	3269.2	3266.9	3265.6	3262.0	3265.6	3266.9	3269.2	3270.9	3269.2	3266.9
6.5°	3260.7	3259.4	3256.7	3255.4	3251.8	3255.4	3256.7	3259.4	3260.7	3259.4	3256.7
7°	3250.0	3248.2	3246.9	3244.7	3241.6	3244.7	3246.9	3248.2	3250.0	3248.2	3246.9
7.5°	3238.0	3236.2	3234.4	3233.5	3230.4	3233.5	3234.4	3236.2	3238.0	3236.2	3234.4
8°	3225.1	3223.8	3222.0	3220.6	3218.9	3220.6	3222.0	3223.8	3225.1	3223.8	3222.0
8.5°	3211.7	3210.0	3208.2	3206.8	3205.1	3206.8	3208.2	3210.0	3211.7	3210.0	3208.2
9°	3197.5	3196.2	3193.9	3192.6	3190.8	3192.6	3193.9	3196.2	3197.5	3196.2	3193.9
9.5°	3181.9	3181.0	3178.8	3177.5	3175.7	3177.5	3178.8	3181.0	3181.9	3181.0	3178.8
10°	3166.3	3165.0	3163.2	3161.4	3159.2	3161.4	3163.2	3165.0	3166.3	3165.0	3163.2
10.5°	3149.0	3148.1	3145.9	3144.5	3142.7	3144.5	3145.9	3148.1	3149.0	3148.1	3145.9
11°	3131.6	3130.7	3128.9	3127.2	3124.9	3127.2	3128.9	3130.7	3131.6	3130.7	3128.9
11.5°	3113.4	3112.5	3110.7	3108.9	3107.1	3108.9	3110.7	3112.5	3113.4	3112.5	3110.7
12°	3094.7	3093.8	3092.4	3090.2	3088.4	3090.2	3092.4	3093.8	3094.7	3093.8	3092.4
12.5°	3075.1	3074.2	3072.8	3070.6	3068.4	3070.6	3072.8	3074.2	3075.1	3074.2	3072.8
13°	3055.0	3054.2	3052.8	3051.0	3048.8	3051.0	3052.8	3054.2	3055.0	3054.2	3052.8
13.5°	3034.1	3033.2	3032.3	3030.6	3028.8	3030.6	3032.3	3033.2	3034.1	3033.2	3032.3
14°	3012.8	3012.3	3011.4	3009.6	3007.9	3009.6	3011.4	3012.3	3012.8	3012.3	3011.4
14.5°	2990.5	2990.1	2989.6	2987.8	2986.0	2987.8	2989.6	2990.1	2990.5	2990.1	2989.6
15°	2968.2	2968.2	2967.3	2966.5	2964.7	2966.5	2967.3	2968.2	2968.2	2968.2	2967.3
15.5°	2945.1	2945.1	2946.0	2945.1	2944.2	2945.1	2946.0	2945.1	2945.1	2945.1	2946.0
16°	2922.8	2923.3	2924.6	2924.2	2923.3	2924.2	2924.6	2923.3	2922.8	2923.3	2924.6
16.5°	2900.6	2901.5	2903.2	2903.2	2902.8	2903.2	2903.2	2901.5	2900.6	2901.5	2903.2
17°	2879.7	2880.5	2882.3	2881.9	2882.3	2881.9	2882.3	2880.5	2879.7	2880.5	2882.3
17.5°	2859.2	2860.1	2861.4	2861.0	2860.5	2861.0	2861.4	2860.1	2859.2	2860.1	2861.4
18°	2839.1	2839.6	2840.5	2839.6	2838.7	2839.6	2840.5	2839.6	2839.1	2839.6	2840.5
18.5°	2817.8	2817.8	2817.8	2816.9	2815.6	2816.9	2817.8	2817.8	2817.8	2817.8	2817.8
19°	2796.0	2794.6	2793.7	2792.4	2791.1	2792.4	2793.7	2794.6	2796.0	2794.6	2793.7
19.5°	2771.9	2770.1	2767.5	2766.6	2765.3	2766.6	2767.5	2770.1	2771.9	2770.1	2767.5
20°	2745.7	2743.4	2738.5	2739.0	2735.9	2739.0	2738.5	2743.4	2745.7	2743.4	2738.5
20.5°	2716.7	2713.2	2707.4	2709.2	2705.6	2709.2	2707.4	2713.2	2716.7	2713.2	2707.4
21°	2686.5	2681.1	2674.4	2676.7	2672.2	2676.7	2674.4	2681.1	2686.5	2681.1	2674.4



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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°	2575.6	2570.3	2565.8	2565.4	2563.2	2565.4	2565.8	2570.3	2575.6	2570.3	2565.8
23°	2533.3	2528.9	2528.0	2524.9	2524.0	2524.9	2528.0	2528.9	2533.3	2528.9	2528.0
23.5°	2490.2	2486.1	2488.4	2483.0	2485.3	2483.0	2488.4	2486.1	2490.2	2486.1	2488.4
24°	2445.2	2442.1	2447.4	2440.3	2444.3	2440.3	2447.4	2442.1	2445.2	2442.1	2447.4
24.5°	2398.9	2397.6	2404.2	2397.1	2402.5	2397.1	2404.2	2397.6	2398.9	2397.6	2404.2
25°	2350.4	2351.3	2359.3	2353.9	2357.9	2353.9	2359.3	2351.3	2350.4	2351.3	2359.3
25.5°	2300.1	2305.9	2313.0	2310.8	2311.6	2310.8	2313.0	2305.9	2300.1	2305.9	2313.0
26°	2248.4	2258.7	2265.4	2265.8	2262.2	2265.8	2265.4	2258.7	2248.4	2258.7	2265.4
26.5°	2195.5	2210.6	2215.9	2219.1	2211.0	2219.1	2215.9	2210.6	2195.5	2210.6	2215.9
27°	2143.8	2160.7	2166.1	2171.0	2159.0	2171.0	2166.1	2160.7	2143.8	2160.7	2166.1
27.5°	2093.1	2109.1	2115.3	2121.6	2106.0	2121.6	2115.3	2109.1	2093.1	2109.1	2115.3
28°	2042.3	2057.5	2063.7	2069.9	2053.0	2069.9	2063.7	2057.5	2042.3	2057.5	2063.7
28.5°	1992.9	2004.9	2012.1	2017.4	2001.8	2017.4	2012.1	2004.9	1992.9	2004.9	2012.1
29°	1944.0	1952.0	1960.4	1964.0	1953.3	1964.0	1960.4	1952.0	1944.0	1952.0	1960.4
29.5°	1895.9	1899.9	1909.2	1910.6	1905.7	1910.6	1909.2	1899.9	1895.9	1899.9	1909.2
30°	1847.8	1846.5	1856.7	1857.2	1857.6	1857.2	1856.7	1846.5	1847.8	1846.5	1856.7
30.5°	1797.9	1794.8	1804.6	1805.5	1812.2	1805.5	1804.6	1794.8	1797.9	1794.8	1804.6
31°	1748.5	1741.9	1752.1	1753.9	1764.1	1753.9	1752.1	1741.9	1748.5	1741.9	1752.1
31.5°	1697.8	1691.1	1699.6	1702.7	1715.6	1702.7	1699.6	1691.1	1697.8	1691.1	1699.6
32°	1646.2	1639.9	1647.5	1652.4	1665.7	1652.4	1647.5	1639.9	1646.2	1639.9	1647.5
32.5°	1596.3	1591.0	1596.3	1602.5	1615.9	1602.5	1596.3	1591.0	1596.3	1591.0	1596.3
33°	1546.0	1542.0	1543.8	1552.7	1565.1	1552.7	1543.8	1542.0	1546.0	1542.0	1543.8
33.5°	1501.0	1493.0	1491.7	1502.8	1513.9	1502.8	1491.7	1493.0	1501.0	1493.0	1491.7
34°	1452.5	1444.1	1440.1	1453.8	1465.4	1453.8	1440.1	1444.1	1452.5	1444.1	1440.1
34.5°	1404.4	1395.5	1389.7	1404.4	1417.3	1404.4	1389.7	1395.5	1404.4	1395.5	1389.7
35°	1355.9	1348.3	1342.1	1356.8	1370.6	1356.8	1342.1	1348.3	1355.9	1348.3	1342.1
35.5°	1308.7	1301.6	1294.9	1309.6	1324.8	1309.6	1294.9	1301.6	1308.7	1301.6	1294.9
36°	1262.4	1254.9	1249.1	1264.2	1279.8	1264.2	1249.1	1254.9	1262.4	1254.9	1249.1
36.5°	1216.6	1209.9	1204.6	1219.3	1233.9	1219.3	1204.6	1209.9	1216.6	1209.9	1204.6
37°	1170.3	1165.4	1160.9	1175.6	1188.5	1175.6	1160.9	1165.4	1170.3	1165.4	1160.9
37.5°	1125.3	1122.2	1119.1	1133.8	1143.1	1133.8	1119.1	1122.2	1125.3	1122.2	1119.1
38°	1080.8	1080.4	1079.0	1092.8	1098.2	1092.8	1079.0	1080.4	1080.8	1080.4	1079.0
38.5°	1039.0	1039.9	1040.8	1052.8	1055.0	1052.8	1040.8	1039.9	1039.0	1039.9	1040.8
39°	998.5	1000.7	1002.5	1014.0	1013.6	1014.0	1002.5	1000.7	998.5	1000.7	1002.5
39.5°	958.8	962.9	966.0	975.8	974.4	975.8	966.0	962.9	958.8	962.9	966.0
40°	921.0	925.5	930.8	938.8	937.0	938.8	930.8	925.5	921.0	925.5	930.8
40.5°	885.4	889.8	897.0	902.8	902.3	902.8	897.0	889.8	885.4	889.8	897.0
41°	851.1	855.6	864.9	868.9	870.3	868.9	864.9	855.6	851.1	855.6	864.9
41.5°	818.6	823.5	834.2	836.4	840.4	836.4	834.2	823.5	818.6	823.5	834.2
42°	788.4	793.3	804.8	806.2	811.5	806.2	804.8	793.3	788.4	793.3	804.8
42.5°	759.9	764.8	777.2	777.7	783.5	777.7	777.2	764.8	759.9	764.8	777.2
43°	732.7	738.1	750.1	751.0	756.3	751.0	750.1	738.1	732.7	738.1	750.1
43.5°	707.8	713.1	724.7	725.1	730.0	725.1	724.7	713.1	707.8	713.1	724.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	643.7	648.1	655.3	657.5	659.7	657.5	655.3	648.1	643.7	648.1	655.3
45.5°	625.0	628.5	635.2	637.5	639.2	637.5	635.2	628.5	625.0	628.5	635.2
46°	607.2	610.3	616.1	619.2	620.1	619.2	616.1	610.3	607.2	610.3	616.1
46.5°	590.7	593.4	597.8	601.4	602.3	601.4	597.8	593.4	590.7	593.4	597.8
47°	575.1	576.9	581.4	584.9	586.3	584.9	581.4	576.9	575.1	576.9	581.4
47.5°	560.4	561.8	565.8	569.8	571.6	569.8	565.8	561.8	560.4	561.8	565.8
48°	546.6	548.4	552.4	556.0	557.8	556.0	552.4	548.4	546.6	548.4	552.4
48.5°	535.5	536.4	539.5	543.1	544.4	543.1	539.5	536.4	535.5	536.4	539.5
49°	524.8	525.3	527.9	530.6	532.0	530.6	527.9	525.3	524.8	525.3	527.9
49.5°	514.6	515.0	516.8	519.0	519.5	519.0	516.8	515.0	514.6	515.0	516.8
50°	503.9	504.4	505.7	507.5	507.9	507.5	505.7	504.4	503.9	504.4	505.7
50.5°	493.2	493.7	494.6	496.3	496.3	496.3	494.6	493.7	493.2	493.7	494.6
51°	481.2	482.1	483.4	485.2	485.2	485.2	483.4	482.1	481.2	482.1	483.4
51.5°	469.6	470.1	471.9	474.1	474.5	474.1	471.9	470.1	469.6	470.1	471.9
52°	457.6	458.5	460.3	462.5	463.0	462.5	460.3	458.5	457.6	458.5	460.3
52.5°	445.6	446.5	448.7	450.5	451.4	450.5	448.7	446.5	445.6	446.5	448.7
53°	434.5	435.4	437.1	438.9	439.8	438.9	437.1	435.4	434.5	435.4	437.1
53.5°	422.9	423.8	425.6	427.8	428.7	427.8	425.6	423.8	422.9	423.8	425.6
54°	412.2	412.7	414.4	416.2	417.1	416.2	414.4	412.7	412.2	412.7	414.4
54.5°	401.5	402.0	403.7	405.5	406.4	405.5	403.7	402.0	401.5	402.0	403.7
55°	390.8	391.7	393.5	394.8	395.3	394.8	393.5	391.7	390.8	391.7	393.5
55.5°	380.6	381.5	383.3	384.6	385.1	384.6	383.3	381.5	380.6	381.5	383.3
56°	370.8	371.7	373.0	374.4	374.8	374.4	373.0	371.7	370.8	371.7	373.0
56.5°	361.0	361.9	363.2	364.6	365.0	364.6	363.2	361.9	361.0	361.9	363.2
57°	351.2	352.1	353.4	354.8	355.2	354.8	353.4	352.1	351.2	352.1	353.4
57.5°	341.4	342.8	344.1	345.0	345.9	345.0	344.1	342.8	341.4	342.8	344.1
58°	333.0	333.4	334.8	336.1	336.5	336.1	334.8	333.4	333.0	333.4	334.8
58.5°	324.1	324.5	325.8	326.7	327.2	326.7	325.8	324.5	324.1	324.5	325.8
59°	315.2	315.6	316.5	317.4	318.3	317.4	316.5	315.6	315.2	315.6	316.5
59.5°	306.3	306.7	307.6	308.9	309.4	308.9	307.6	306.7	306.3	306.7	307.6
60°	297.8	298.2	299.1	300.0	300.5	300.0	299.1	298.2	297.8	298.2	299.1
60.5°	289.3	289.8	290.7	291.6	292.0	291.6	290.7	289.8	289.3	289.8	290.7
61°	281.3	281.8	282.7	283.6	284.0	283.6	282.7	281.8	281.3	281.8	282.7
61.5°	273.3	273.8	274.7	275.5	276.0	275.5	274.7	273.8	273.3	273.8	274.7
62°	265.8	265.8	266.6	267.5	267.5	267.5	266.6	265.8	265.8	265.8	266.6
62.5°	257.7	258.2	258.6	259.5	260.0	259.5	258.6	258.2	257.7	258.2	258.6
63°	250.2	250.6	251.1	252.0	252.0	252.0	251.1	250.6	250.2	250.6	251.1
63.5°	242.6	243.1	243.5	244.4	244.8	244.4	243.5	243.1	242.6	243.1	243.5
64°	235.5	235.9	236.4	236.8	237.3	236.8	236.4	235.9	235.5	235.9	236.4
64.5°	228.4	228.8	229.3	229.7	230.1	229.7	229.3	228.8	228.4	228.8	229.3
65°	221.2	221.7	222.1	222.6	223.0	222.6	222.1	221.7	221.2	221.7	222.1
65.5°	214.6	214.6	215.0	215.9	215.9	215.9	215.0	214.6	214.6	214.6	215.0
66°	207.4	207.9	208.3	208.8	209.2	208.8	208.3	207.9	207.4	207.9	208.3



TEST NUMBER: P776544

CATALOG NUMBER: HCDJBL4050CSD-HCD42TRMW-4500lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	187.9	188.3	188.7	189.2	189.2	189.2	188.7	188.3	187.9	188.3	188.7
68°	181.6	182.1	182.5	183.0	183.0	183.0	182.5	182.1	181.6	182.1	182.5
68.5°	175.4	175.8	176.3	176.3	176.7	176.3	176.3	175.8	175.4	175.8	176.3
69°	169.6	169.6	169.6	170.5	170.5	170.5	169.6	169.6	169.6	169.6	169.6
69.5°	163.4	163.8	163.8	164.3	164.7	164.3	163.8	163.8	163.4	163.8	163.8
70°	158.0	158.5	158.0	158.5	158.9	158.5	158.0	158.5	158.0	158.5	158.0
70.5°	152.2	152.7	152.7	152.7	153.1	152.7	152.7	152.7	152.2	152.7	152.7
71°	146.9	146.9	146.9	146.9	147.3	146.9	146.9	146.9	146.9	146.9	146.9
71.5°	141.1	141.1	141.6	141.6	141.6	141.6	141.6	141.1	141.1	141.1	141.6
72°	135.8	135.8	135.8	136.2	136.2	136.2	135.8	135.8	135.8	135.8	135.8
72.5°	130.4	130.4	130.4	130.9	130.9	130.9	130.4	130.4	130.4	130.4	130.4
73°	125.1	125.1	125.1	125.5	125.5	125.5	125.1	125.1	125.1	125.1	125.1
73.5°	119.7	119.7	120.2	120.2	120.2	120.2	120.2	119.7	119.7	119.7	120.2
74°	114.8	114.8	114.8	115.3	115.3	115.3	114.8	114.8	114.8	114.8	114.8
74.5°	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0
75°	105.1	105.1	105.1	105.1	105.1	105.1	105.1	105.1	105.1	105.1	105.1
75.5°	100.2	100.2	100.2	100.2	100.6	100.2	100.2	100.2	100.2	100.2	100.2
76°	95.7	95.3	95.3	95.7	95.7	95.7	95.3	95.3	95.7	95.3	95.3
76.5°	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8
77°	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4
77.5°	81.9	81.9	81.9	81.9	81.9	81.9	81.9	81.9	81.9	81.9	81.9
78°	77.5	77.5	77.5	77.5	77.5	77.5	77.5	77.5	77.5	77.5	77.5
78.5°	73.4	73.4	73.0	73.0	73.4	73.0	73.0	73.4	73.4	73.4	73.0
79°	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0
79.5°	65.0	65.0	64.5	65.0	65.0	65.0	64.5	65.0	65.0	65.0	64.5
80°	61.0	61.0	60.5	60.5	60.5	60.5	60.5	61.0	61.0	61.0	60.5
80.5°	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0
81°	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0
81.5°	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0
82°	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4
82.5°	41.8	41.8	41.8	41.8	41.4	41.8	41.8	41.8	41.8	41.8	41.8
83°	38.3	38.3	38.3	37.8	37.8	37.8	38.3	38.3	38.3	38.3	38.3
83.5°	34.7	34.7	34.7	34.3	34.3	34.3	34.7	34.7	34.7	34.7	34.7
84°	31.2	31.2	31.2	31.2	31.2	31.2	31.2	31.2	31.2	31.2	31.2
84.5°	28.0	27.6	27.6	27.6	27.6	27.6	27.6	27.6	28.0	27.6	27.6
85°	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
85.5°	21.4	20.9	21.4	20.9	21.4	20.9	21.4	20.9	21.4	20.9	21.4
86°	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8
86.5°	15.1	14.7	14.7	14.7	15.1	14.7	14.7	14.7	15.1	14.7	14.7
87°	12.0	12.0	12.0	11.6	12.0	11.6	12.0	12.0	12.0	12.0	12.0
87.5°	8.9	8.9	8.9	8.9	9.3	8.9	8.9	8.9	8.9	8.9	8.9
88°	5.8	6.2	6.2	6.7	6.7	6.7	6.2	6.2	5.8	6.2	6.2
88.5°	3.6	3.6	4.0	4.5	5.3	4.5	4.0	3.6	3.6	3.6	4.0



TEST NUMBER: P776544

CATALOG NUMBER: HCDJBL4050CSD-HCD42TRMW-4500lm-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	0.4	0.9	1.3	0.9	0.4	0.0	0.0	0.0	0.4



TEST NUMBER: P776544

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4500lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3323.9	3323.9	3323.9	3323.9	3323.9	3323.9
0.5°	3322.6	3321.2	3322.6	3323.0	3323.9	3324.4
1°	3321.7	3319.9	3321.7	3322.1	3322.6	3323.0
1.5°	3319.5	3318.1	3319.5	3320.4	3320.4	3321.2
2°	3316.8	3315.0	3316.8	3317.2	3318.1	3318.6
2.5°	3313.2	3311.0	3313.2	3313.7	3314.6	3315.5
3°	3308.3	3306.1	3308.3	3309.2	3310.1	3311.0
3.5°	3303.0	3301.7	3303.0	3303.9	3305.2	3306.1
4°	3297.2	3295.0	3297.2	3298.1	3299.9	3300.3
4.5°	3290.5	3287.9	3290.5	3291.4	3293.2	3294.1
5°	3283.8	3280.7	3283.8	3284.7	3286.5	3287.9
5.5°	3274.9	3272.3	3274.9	3275.8	3278.1	3281.2
6°	3265.6	3262.0	3265.6	3266.9	3269.2	3270.9
6.5°	3255.4	3251.8	3255.4	3256.7	3259.4	3260.7
7°	3244.7	3241.6	3244.7	3246.9	3248.2	3250.0
7.5°	3233.5	3230.4	3233.5	3234.4	3236.2	3238.0
8°	3220.6	3218.9	3220.6	3222.0	3223.8	3225.1
8.5°	3206.8	3205.1	3206.8	3208.2	3210.0	3211.7
9°	3192.6	3190.8	3192.6	3193.9	3196.2	3197.5
9.5°	3177.5	3175.7	3177.5	3178.8	3181.0	3181.9
10°	3161.4	3159.2	3161.4	3163.2	3165.0	3166.3
10.5°	3144.5	3142.7	3144.5	3145.9	3148.1	3149.0
11°	3127.2	3124.9	3127.2	3128.9	3130.7	3131.6
11.5°	3108.9	3107.1	3108.9	3110.7	3112.5	3113.4
12°	3090.2	3088.4	3090.2	3092.4	3093.8	3094.7
12.5°	3070.6	3068.4	3070.6	3072.8	3074.2	3075.1
13°	3051.0	3048.8	3051.0	3052.8	3054.2	3055.0
13.5°	3030.6	3028.8	3030.6	3032.3	3033.2	3034.1
14°	3009.6	3007.9	3009.6	3011.4	3012.3	3012.8
14.5°	2987.8	2986.0	2987.8	2989.6	2990.1	2990.5
15°	2966.5	2964.7	2966.5	2967.3	2968.2	2968.2
15.5°	2945.1	2944.2	2945.1	2946.0	2945.1	2945.1
16°	2924.2	2923.3	2924.2	2924.6	2923.3	2922.8
16.5°	2903.2	2902.8	2903.2	2903.2	2901.5	2900.6
17°	2881.9	2882.3	2881.9	2882.3	2880.5	2879.7
17.5°	2861.0	2860.5	2861.0	2861.4	2860.1	2859.2
18°	2839.6	2838.7	2839.6	2840.5	2839.6	2839.1
18.5°	2816.9	2815.6	2816.9	2817.8	2817.8	2817.8
19°	2792.4	2791.1	2792.4	2793.7	2794.6	2796.0
19.5°	2766.6	2765.3	2766.6	2767.5	2770.1	2771.9
20°	2739.0	2735.9	2739.0	2738.5	2743.4	2745.7
20.5°	2709.2	2705.6	2709.2	2707.4	2713.2	2716.7
21°	2676.7	2672.2	2676.7	2674.4	2681.1	2686.5



TEST NUMBER: P776544

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4500lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2565.4	2563.2	2565.4	2565.8	2570.3	2575.6
23°	2524.9	2524.0	2524.9	2528.0	2528.9	2533.3
23.5°	2483.0	2485.3	2483.0	2488.4	2486.1	2490.2
24°	2440.3	2444.3	2440.3	2447.4	2442.1	2445.2
24.5°	2397.1	2402.5	2397.1	2404.2	2397.6	2398.9
25°	2353.9	2357.9	2353.9	2359.3	2351.3	2350.4
25.5°	2310.8	2311.6	2310.8	2313.0	2305.9	2300.1
26°	2265.8	2262.2	2265.8	2265.4	2258.7	2248.4
26.5°	2219.1	2211.0	2219.1	2215.9	2210.6	2195.5
27°	2171.0	2159.0	2171.0	2166.1	2160.7	2143.8
27.5°	2121.6	2106.0	2121.6	2115.3	2109.1	2093.1
28°	2069.9	2053.0	2069.9	2063.7	2057.5	2042.3
28.5°	2017.4	2001.8	2017.4	2012.1	2004.9	1992.9
29°	1964.0	1953.3	1964.0	1960.4	1952.0	1944.0
29.5°	1910.6	1905.7	1910.6	1909.2	1899.9	1895.9
30°	1857.2	1857.6	1857.2	1856.7	1846.5	1847.8
30.5°	1805.5	1812.2	1805.5	1804.6	1794.8	1797.9
31°	1753.9	1764.1	1753.9	1752.1	1741.9	1748.5
31.5°	1702.7	1715.6	1702.7	1699.6	1691.1	1697.8
32°	1652.4	1665.7	1652.4	1647.5	1639.9	1646.2
32.5°	1602.5	1615.9	1602.5	1596.3	1591.0	1596.3
33°	1552.7	1565.1	1552.7	1543.8	1542.0	1546.0
33.5°	1502.8	1513.9	1502.8	1491.7	1493.0	1501.0
34°	1453.8	1465.4	1453.8	1440.1	1444.1	1452.5
34.5°	1404.4	1417.3	1404.4	1389.7	1395.5	1404.4
35°	1356.8	1370.6	1356.8	1342.1	1348.3	1355.9
35.5°	1309.6	1324.8	1309.6	1294.9	1301.6	1308.7
36°	1264.2	1279.8	1264.2	1249.1	1254.9	1262.4
36.5°	1219.3	1233.9	1219.3	1204.6	1209.9	1216.6
37°	1175.6	1188.5	1175.6	1160.9	1165.4	1170.3
37.5°	1133.8	1143.1	1133.8	1119.1	1122.2	1125.3
38°	1092.8	1098.2	1092.8	1079.0	1080.4	1080.8
38.5°	1052.8	1055.0	1052.8	1040.8	1039.9	1039.0
39°	1014.0	1013.6	1014.0	1002.5	1000.7	998.5
39.5°	975.8	974.4	975.8	966.0	962.9	958.8
40°	938.8	937.0	938.8	930.8	925.5	921.0
40.5°	902.8	902.3	902.8	897.0	889.8	885.4
41°	868.9	870.3	868.9	864.9	855.6	851.1
41.5°	836.4	840.4	836.4	834.2	823.5	818.6
42°	806.2	811.5	806.2	804.8	793.3	788.4
42.5°	777.7	783.5	777.7	777.2	764.8	759.9
43°	751.0	756.3	751.0	750.1	738.1	732.7
43.5°	725.1	730.0	725.1	724.7	713.1	707.8



TEST NUMBER: P776544

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4500lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	657.5	659.7	657.5	655.3	648.1	643.7
45.5°	637.5	639.2	637.5	635.2	628.5	625.0
46°	619.2	620.1	619.2	616.1	610.3	607.2
46.5°	601.4	602.3	601.4	597.8	593.4	590.7
47°	584.9	586.3	584.9	581.4	576.9	575.1
47.5°	569.8	571.6	569.8	565.8	561.8	560.4
48°	556.0	557.8	556.0	552.4	548.4	546.6
48.5°	543.1	544.4	543.1	539.5	536.4	535.5
49°	530.6	532.0	530.6	527.9	525.3	524.8
49.5°	519.0	519.5	519.0	516.8	515.0	514.6
50°	507.5	507.9	507.5	505.7	504.4	503.9
50.5°	496.3	496.3	496.3	494.6	493.7	493.2
51°	485.2	485.2	485.2	483.4	482.1	481.2
51.5°	474.1	474.5	474.1	471.9	470.1	469.6
52°	462.5	463.0	462.5	460.3	458.5	457.6
52.5°	450.5	451.4	450.5	448.7	446.5	445.6
53°	438.9	439.8	438.9	437.1	435.4	434.5
53.5°	427.8	428.7	427.8	425.6	423.8	422.9
54°	416.2	417.1	416.2	414.4	412.7	412.2
54.5°	405.5	406.4	405.5	403.7	402.0	401.5
55°	394.8	395.3	394.8	393.5	391.7	390.8
55.5°	384.6	385.1	384.6	383.3	381.5	380.6
56°	374.4	374.8	374.4	373.0	371.7	370.8
56.5°	364.6	365.0	364.6	363.2	361.9	361.0
57°	354.8	355.2	354.8	353.4	352.1	351.2
57.5°	345.0	345.9	345.0	344.1	342.8	341.4
58°	336.1	336.5	336.1	334.8	333.4	333.0
58.5°	326.7	327.2	326.7	325.8	324.5	324.1
59°	317.4	318.3	317.4	316.5	315.6	315.2
59.5°	308.9	309.4	308.9	307.6	306.7	306.3
60°	300.0	300.5	300.0	299.1	298.2	297.8
60.5°	291.6	292.0	291.6	290.7	289.8	289.3
61°	283.6	284.0	283.6	282.7	281.8	281.3
61.5°	275.5	276.0	275.5	274.7	273.8	273.3
62°	267.5	267.5	267.5	266.6	265.8	265.8
62.5°	259.5	260.0	259.5	258.6	258.2	257.7
63°	252.0	252.0	252.0	251.1	250.6	250.2
63.5°	244.4	244.8	244.4	243.5	243.1	242.6
64°	236.8	237.3	236.8	236.4	235.9	235.5
64.5°	229.7	230.1	229.7	229.3	228.8	228.4
65°	222.6	223.0	222.6	222.1	221.7	221.2
65.5°	215.9	215.9	215.9	215.0	214.6	214.6
66°	208.8	209.2	208.8	208.3	207.9	207.4



TEST NUMBER: P776544

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4500lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	189.2	189.2	189.2	188.7	188.3	187.9
68°	183.0	183.0	183.0	182.5	182.1	181.6
68.5°	176.3	176.7	176.3	176.3	175.8	175.4
69°	170.5	170.5	170.5	169.6	169.6	169.6
69.5°	164.3	164.7	164.3	163.8	163.8	163.4
70°	158.5	158.9	158.5	158.0	158.5	158.0
70.5°	152.7	153.1	152.7	152.7	152.7	152.2
71°	146.9	147.3	146.9	146.9	146.9	146.9
71.5°	141.6	141.6	141.6	141.6	141.1	141.1
72°	136.2	136.2	136.2	135.8	135.8	135.8
72.5°	130.9	130.9	130.9	130.4	130.4	130.4
73°	125.5	125.5	125.5	125.1	125.1	125.1
73.5°	120.2	120.2	120.2	120.2	119.7	119.7
74°	115.3	115.3	115.3	114.8	114.8	114.8
74.5°	110.0	110.0	110.0	110.0	110.0	110.0
75°	105.1	105.1	105.1	105.1	105.1	105.1
75.5°	100.2	100.6	100.2	100.2	100.2	100.2
76°	95.7	95.7	95.7	95.3	95.3	95.7
76.5°	90.8	90.8	90.8	90.8	90.8	90.8
77°	86.4	86.4	86.4	86.4	86.4	86.4
77.5°	81.9	81.9	81.9	81.9	81.9	81.9
78°	77.5	77.5	77.5	77.5	77.5	77.5
78.5°	73.0	73.4	73.0	73.0	73.4	73.4
79°	69.0	69.0	69.0	69.0	69.0	69.0
79.5°	65.0	65.0	65.0	64.5	65.0	65.0
80°	60.5	60.5	60.5	60.5	61.0	61.0
80.5°	57.0	57.0	57.0	57.0	57.0	57.0
81°	53.0	53.0	53.0	53.0	53.0	53.0
81.5°	49.0	49.0	49.0	49.0	49.0	49.0
82°	45.4	45.4	45.4	45.4	45.4	45.4
82.5°	41.8	41.4	41.8	41.8	41.8	41.8
83°	37.8	37.8	37.8	38.3	38.3	38.3
83.5°	34.3	34.3	34.3	34.7	34.7	34.7
84°	31.2	31.2	31.2	31.2	31.2	31.2
84.5°	27.6	27.6	27.6	27.6	27.6	28.0
85°	24.5	24.5	24.5	24.5	24.5	24.5
85.5°	20.9	21.4	20.9	21.4	20.9	21.4
86°	17.8	17.8	17.8	17.8	17.8	17.8
86.5°	14.7	15.1	14.7	14.7	14.7	15.1
87°	11.6	12.0	11.6	12.0	12.0	12.0
87.5°	8.9	9.3	8.9	8.9	8.9	8.9
88°	6.7	6.7	6.7	6.2	6.2	5.8
88.5°	4.5	5.3	4.5	4.0	3.6	3.6



TEST NUMBER: P776544

CATALOG NUMBER: HCDJBS4050CSD-HCD42TRMW-4500lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.9	1.3	0.9	0.4	0.0	0.0



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

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21.5°	2651.3	2646.8	2639.3	2641.5	2637.1	2641.5	2639.3	2646.8	2651.3	2646.8	2639.3
22°	2614.3	2609.9	2603.2	2604.1	2599.7	2604.1	2603.2	2609.9	2614.3	2609.9	2603.2



44°	684.6	690.0	700.2	701.1	705.6	701.1	700.2	690.0	684.6	690.0	700.2
44.5°	663.3	668.6	677.5	678.8	682.0	678.8	677.5	668.6	663.3	668.6	677.5



66.5°	200.8	201.2	201.7	202.1	202.5	202.1	201.7	201.2	200.8	201.2	201.7
67°	194.5	194.5	195.0	195.4	195.9	195.4	195.0	194.5	194.5	194.5	195.0



89°	1.3	1.8	2.7	3.1	3.6	3.1	2.7	1.8	1.3	1.8	2.7
89.5°	0.0	0.4	1.3	1.8	2.2	1.8	1.3	0.4	0.0	0.4	1.3

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21.5°	2641.5	2637.1	2641.5	2639.3	2646.8	2651.3
22°	2604.1	2599.7	2604.1	2603.2	2609.9	2614.3



44°	701.1	705.6	701.1	700.2	690.0	684.6
44.5°	678.8	682.0	678.8	677.5	668.6	663.3

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66.5°	202.1	202.5	202.1	201.7	201.2	200.8
67°	195.4	195.9	195.4	195.0	194.5	194.5

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89°	3.1	3.6	3.1	2.7	1.8	1.3
89.5°	1.8	2.2	1.8	1.3	0.4	0.0

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Scaled Data Report



(END OF REPORT)