

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: P776576

Luminaire Tested: HCDJBS4050CSD-HCD42TRH-5000lm-3000K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776576  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B050)  
Test Lab:  
Issue Date: 2/13/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBS4050CSD-HCD42TRH-5000lm-3000K  
Description: 4 INCH ROUND NARROW HAZE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

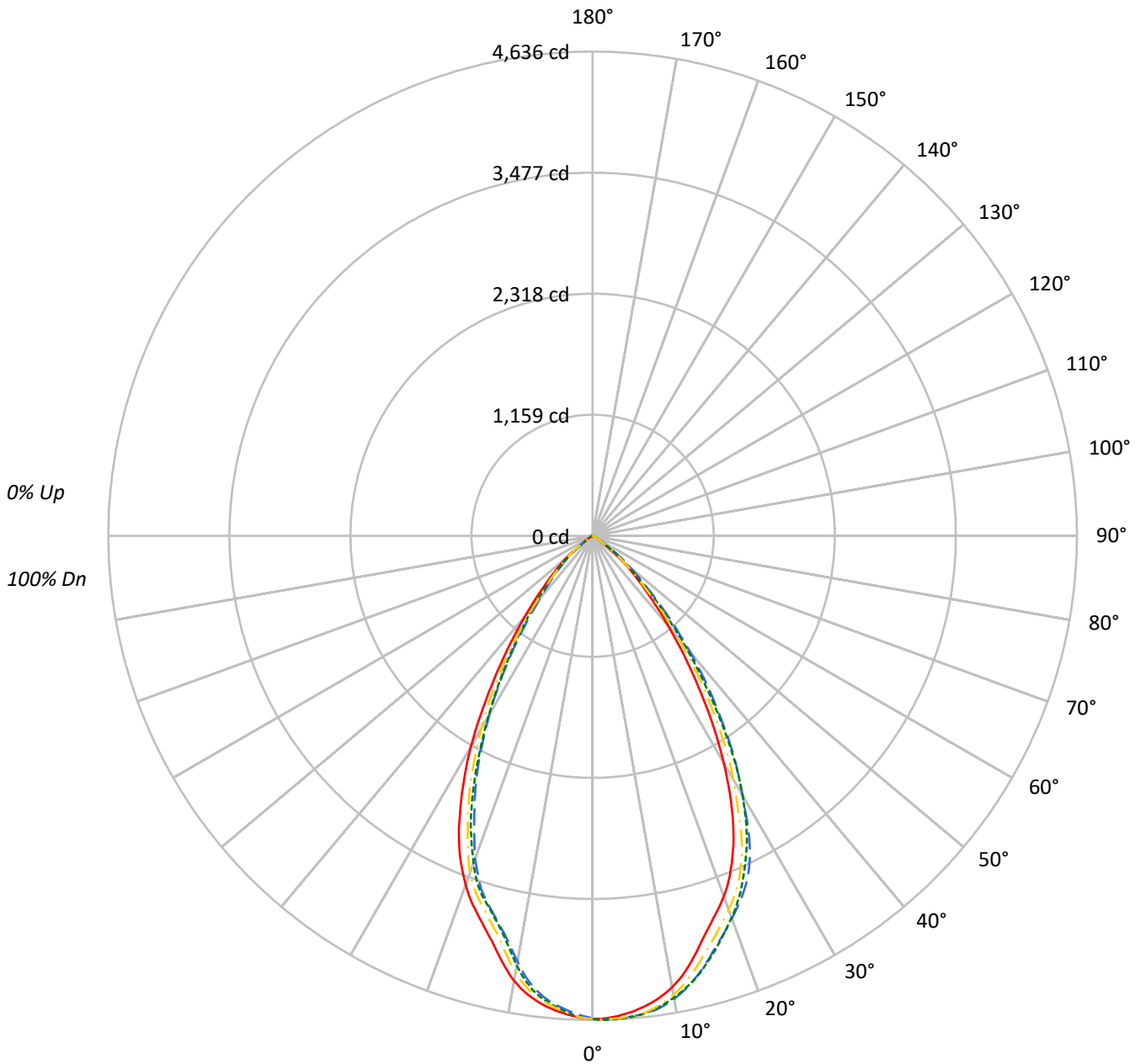
Lumens per Lamp: N/A  
Luminaire Lumens: 4666.3 lumens  
Efficiency: N/A  
Efficacy: 97.2 lumens/watt  
Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.92  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 48  
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



TEST NUMBER: P776576  
CATALOG NUMBER: HCDJBL54050CSD-HCD42TRH-5000lm-3000K

### 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	99	97	97	96	95	93
	1	113	110	108	105	111	108	106	104	104	102	100	100	99	97	97	96	95	93	93	92	90	89	88	87	86
	2	107	102	98	94	105	100	96	93	97	94	91	94	91	89	91	89	87	86	86	85	84	83	82	81	80
	3	101	95	89	85	99	93	88	84	90	86	83	88	85	82	86	83	80	79	79	78	77	76	75	74	73
	4	96	88	82	77	94	87	81	77	84	80	76	82	78	75	80	77	74	73	73	72	71	70	69	68	67
	5	90	82	75	71	89	81	75	70	79	74	70	77	73	69	76	72	69	67	67	66	65	64	63	62	61
	6	86	76	70	65	84	75	69	65	74	68	64	72	68	64	71	67	64	62	62	61	60	59	58	57	56
	7	81	71	65	60	80	70	64	60	69	64	60	68	63	59	67	62	59	57	57	56	55	54	53	52	51
	8	77	67	60	56	75	66	60	56	65	59	56	64	59	55	63	58	55	54	54	53	52	51	50	49	48
	9	73	63	56	52	72	62	56	52	61	56	52	60	55	52	59	55	51	50	50	49	48	47	46	45	44
	10	69	59	53	49	68	58	53	49	58	52	48	57	52	48	56	51	48	47	47	46	45	44	43	42	41

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	581980	581980	581980	581980
5°	576926	583319	574172	569233
10°	560799	573744	552850	534027
15°	524323	551436	510942	486500
20°	491926	521229	476256	446525
25°	443421	480191	419371	376352
30°	364896	417007	338230	289562
35°	271318	323692	245615	208804
40°	185347	225711	165583	142008
45°	119050	141030	105559	90360
50°	71658	81663	61477	49750
55°	27317	32298	19374	15074
60°	9237	10873	7727	6192
65°	4437	4705	3603	2918
70°	2061	2392	1693	1545
75°	1118	1361	924	924
80°	652	652	362	362
85°	0	722	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 156906 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	428.4	9.2
10°-20°	1116.8	23.9
20°-30°	1401.1	30.0
30°-40°	1069.9	22.9
40°-50°	509.9	10.9
50°-60°	122.0	2.6
60°-70°	15.2	0.3
70°-80°	2.7	0.1
80°-90°	0.3	0.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2946.3	63.1
0°-40°	4016.2	86.1
0°-60°	4648.2	99.6
0°-90°	4666.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4666.3	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	4624	4624	4624	4624	4624	
5°	4567	4617	4545	4506	4567	430
15°	4024	4232	3922	3734	4024	1132
25°	3193	3458	3020	2710	3193	1444
35°	1766	2107	1599	1359	1766	1104
45°	669	792	593	508	669	529
55°	124	147	88	69	124	134
65°	15	16	12	10	15	16
75°	2	3	2	2	2	3
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°	4624.4	4624.4	4624.4	4624.4	4624.4	4624.4	4624.4	4624.4	4624.4	4624.4	4624.4
0.5°	4625.8	4624.9	4624.4	4623.5	4633.2	4632.3	4630.4	4627.2	4622.1	4614.2	4610.5
1°	4625.3	4627.6	4629.0	4628.1	4635.5	4635.1	4631.4	4626.2	4617.9	4606.7	4602.1
1.5°	4622.5	4627.6	4630.4	4631.4	4636.5	4635.5	4630.9	4624.4	4613.7	4597.0	4590.0
2°	4617.9	4627.2	4631.4	4633.2	4636.0	4635.5	4630.0	4621.6	4606.3	4586.8	4577.5
2.5°	4612.3	4624.4	4630.4	4633.2	4634.6	4634.1	4628.1	4617.9	4598.8	4575.2	4564.9
3°	4604.9	4620.2	4628.1	4632.7	4633.2	4632.7	4625.3	4613.2	4590.0	4563.1	4551.0
3.5°	4596.5	4617.0	4625.3	4630.9	4630.4	4630.4	4622.5	4608.1	4580.7	4549.6	4536.1
4°	4587.2	4611.4	4621.6	4629.0	4627.2	4628.1	4619.7	4602.1	4569.6	4536.1	4520.3
4.5°	4577.0	4604.9	4618.4	4625.3	4623.5	4624.4	4615.6	4595.1	4558.4	4520.8	4504.1
5°	4566.8	4597.9	4614.6	4622.1	4617.4	4619.7	4610.5	4586.3	4545.0	4504.6	4485.0
5.5°	4554.7	4590.9	4609.5	4618.4	4611.8	4614.2	4604.0	4576.1	4531.5	4487.4	4464.6
6°	4541.2	4582.6	4604.4	4613.7	4603.0	4606.7	4595.6	4565.4	4516.2	4468.3	4442.8
6.5°	4526.8	4573.3	4597.9	4606.7	4594.2	4597.0	4585.4	4552.4	4499.4	4447.0	4416.8
7°	4512.0	4563.1	4590.0	4599.3	4583.5	4586.3	4573.8	4538.0	4480.9	4423.3	4388.4
7.5°	4496.2	4550.5	4580.7	4590.5	4570.5	4572.8	4558.4	4520.8	4460.9	4395.9	4356.8
8°	4477.6	4536.1	4569.1	4579.8	4556.6	4558.0	4542.6	4502.7	4439.1	4366.6	4320.2
8.5°	4458.1	4519.9	4554.7	4566.8	4540.8	4541.7	4524.1	4483.2	4414.0	4333.6	4281.6
9°	4436.3	4502.2	4538.9	4551.9	4525.5	4522.7	4504.6	4461.8	4387.5	4297.4	4237.5
9.5°	4413.5	4483.2	4521.3	4536.1	4507.3	4504.6	4482.7	4439.1	4357.8	4257.0	4191.5
10°	4388.4	4461.8	4501.8	4518.5	4489.7	4483.2	4460.0	4413.0	4326.2	4213.3	4139.9
10.5°	4360.6	4438.6	4480.9	4500.4	4470.2	4461.8	4435.3	4385.6	4291.4	4166.4	4091.2
11°	4331.3	4414.9	4457.6	4480.4	4449.7	4438.6	4408.9	4355.0	4251.9	4119.5	4040.5
11.5°	4299.3	4388.9	4434.9	4459.5	4428.8	4414.0	4379.6	4323.4	4211.0	4071.7	3990.4
12°	4264.9	4361.0	4409.3	4438.6	4405.2	4388.4	4349.9	4290.0	4168.3	4023.8	3945.3
12.5°	4228.2	4330.4	4381.9	4414.4	4380.5	4359.6	4318.8	4253.7	4125.1	3980.6	3903.5
13°	4188.2	4298.3	4353.1	4390.3	4355.5	4331.3	4284.9	4215.6	4080.9	3939.3	3864.5
13.5°	4146.9	4264.4	4322.5	4363.8	4328.0	4299.7	4250.5	4177.1	4038.7	3898.9	3828.7
14°	4106.5	4230.0	4291.4	4336.9	4298.8	4267.7	4215.2	4137.1	3996.9	3860.8	3793.0
14.5°	4066.1	4193.8	4259.3	4308.5	4265.8	4233.8	4178.9	4096.7	3958.8	3825.5	3757.7
15°	4024.3	4155.3	4226.3	4277.0	4232.4	4199.9	4142.3	4058.6	3921.6	3789.2	3722.8
15.5°	3985.3	4118.6	4192.4	4246.8	4200.3	4165.5	4106.0	4021.5	3885.9	3755.3	3690.3
16°	3947.2	4081.4	4155.3	4212.9	4166.4	4132.0	4073.0	3985.3	3849.6	3721.0	3656.9
16.5°	3912.8	4045.2	4120.9	4180.3	4134.4	4097.7	4040.1	3950.0	3815.3	3687.5	3622.5
17°	3877.0	4008.9	4088.8	4146.9	4100.0	4065.2	4007.6	3914.2	3780.9	3653.6	3586.3
17.5°	3842.2	3975.5	4056.8	4114.4	4065.6	4031.7	3973.6	3879.8	3747.0	3616.9	3547.7
18°	3807.8	3942.5	4024.7	4081.9	4031.2	3997.3	3939.7	3846.4	3713.5	3577.9	3496.6
18.5°	3774.9	3909.1	3994.1	4048.9	3995.0	3964.4	3906.8	3812.9	3677.3	3528.7	3445.5
19°	3742.3	3877.5	3963.4	4016.4	3960.6	3930.5	3874.2	3780.4	3638.8	3479.9	3394.4
19.5°	3708.4	3844.5	3930.9	3982.0	3925.3	3898.4	3841.7	3747.0	3597.9	3430.7	3343.3
20°	3673.1	3812.9	3899.3	3949.0	3891.9	3864.5	3808.8	3712.1	3556.1	3381.4	3288.5
20.5°	3635.5	3781.4	3868.2	3916.5	3856.6	3829.7	3774.4	3675.5	3508.7	3332.2	3225.8
21°	3594.2	3749.3	3836.6	3882.6	3817.6	3794.8	3740.0	3636.0	3461.3	3270.9	3156.6



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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°	3457.6	3640.6	3735.8	3777.2	3695.9	3674.5	3624.8	3503.1	3319.2	3078.6	2964.8
23°	3408.4	3601.1	3699.1	3736.8	3650.8	3633.6	3584.4	3453.9	3264.8	3019.1	2899.8
23.5°	3356.4	3559.3	3662.4	3696.8	3603.5	3586.3	3532.9	3404.7	3206.8	2960.6	2838.5
24°	3303.4	3513.3	3622.5	3654.5	3556.5	3536.1	3480.8	3355.4	3146.9	2900.7	2777.1
24.5°	3250.0	3465.0	3580.2	3607.6	3507.3	3485.5	3429.3	3309.0	3085.6	2843.6	2715.4
25°	3193.3	3413.9	3535.2	3561.7	3458.1	3435.3	3377.7	3251.8	3020.1	2784.1	2651.7
25.5°	3133.4	3360.5	3484.5	3510.6	3408.4	3384.7	3325.7	3193.3	2952.7	2720.9	2586.2
26°	3070.2	3304.3	3432.5	3458.5	3359.1	3334.5	3257.4	3131.5	2884.0	2655.9	2519.4
26.5°	3004.3	3244.9	3372.6	3406.1	3309.4	3275.1	3187.3	3065.1	2816.2	2587.6	2451.5
27°	2937.4	3183.6	3310.4	3352.6	3254.2	3213.8	3112.0	2994.1	2749.7	2515.2	2380.9
27.5°	2869.1	3118.5	3241.2	3299.2	3195.6	3151.0	3039.1	2923.9	2679.6	2443.2	2312.2
28°	2798.0	3050.3	3166.8	3238.8	3134.8	3086.0	2966.7	2849.6	2611.8	2370.7	2243.5
28.5°	2727.0	2976.4	3093.0	3178.5	3068.4	3017.7	2897.0	2771.6	2542.6	2299.2	2176.6
29°	2653.6	2900.2	3016.4	3115.7	3006.1	2944.8	2828.7	2694.9	2473.4	2227.2	2107.8
29.5°	2583.9	2822.7	2942.0	3050.3	2936.5	2873.3	2760.9	2620.6	2401.4	2158.9	2040.9
30°	2511.0	2745.6	2870.0	2980.6	2869.6	2797.6	2692.6	2543.5	2327.5	2092.0	1975.9
30.5°	2436.2	2668.5	2801.3	2908.1	2799.9	2720.9	2624.3	2468.7	2254.6	2024.2	1910.4
31°	2362.4	2594.1	2733.9	2835.7	2732.1	2648.5	2554.7	2392.5	2180.7	1958.3	1843.1
31.5°	2287.1	2519.4	2666.1	2757.2	2657.8	2574.6	2481.7	2319.2	2105.5	1890.4	1775.7
32°	2211.9	2446.4	2597.4	2682.9	2585.3	2504.5	2408.3	2244.8	2028.9	1820.8	1707.9
32.5°	2137.1	2372.6	2526.3	2606.2	2505.9	2432.0	2333.6	2171.5	1951.8	1750.6	1641.0
33°	2061.8	2299.7	2454.8	2531.4	2427.9	2359.6	2257.4	2099.0	1878.8	1680.5	1574.1
33.5°	1988.9	2225.3	2378.2	2457.6	2346.6	2288.5	2182.1	2027.0	1804.5	1609.9	1506.8
34°	1912.7	2150.6	2302.9	2384.2	2267.6	2216.0	2108.3	1955.0	1733.4	1538.4	1442.2
34.5°	1839.4	2074.8	2226.7	2310.3	2187.2	2141.7	2035.4	1883.9	1664.7	1471.5	1379.0
35°	1766.0	2001.0	2149.6	2236.9	2106.9	2066.9	1964.8	1816.1	1598.7	1404.6	1318.2
35.5°	1693.5	1928.1	2075.8	2163.1	2028.9	1991.7	1895.6	1748.3	1530.9	1341.0	1256.4
36°	1627.5	1857.0	2005.2	2088.8	1951.8	1917.8	1826.3	1681.0	1466.8	1277.3	1196.0
36.5°	1561.1	1788.3	1936.0	2012.1	1871.9	1843.5	1755.7	1615.9	1402.7	1217.4	1138.0
37°	1494.7	1720.0	1864.9	1941.1	1796.2	1769.2	1686.1	1550.9	1341.4	1159.8	1079.5
37.5°	1428.7	1645.2	1796.6	1864.9	1721.8	1697.7	1613.6	1488.2	1280.6	1103.1	1025.1
38°	1362.3	1583.9	1726.9	1792.0	1651.7	1628.0	1543.5	1423.2	1224.4	1047.9	970.8
38.5°	1299.6	1522.1	1654.5	1716.3	1576.5	1557.4	1475.2	1359.5	1164.9	993.5	919.7
39°	1240.6	1460.8	1586.2	1648.4	1509.1	1488.2	1408.3	1296.8	1111.0	942.4	872.3
39.5°	1183.5	1399.5	1517.9	1577.8	1441.8	1417.6	1343.3	1236.9	1058.1	894.1	829.6
40°	1128.2	1336.3	1449.2	1507.7	1373.9	1348.4	1278.7	1175.6	1007.9	849.1	788.2
40.5°	1072.5	1275.5	1380.9	1437.6	1306.1	1281.0	1217.9	1116.6	956.8	806.3	748.7
41°	1020.0	1212.8	1314.5	1367.4	1243.4	1215.6	1159.8	1060.9	909.5	767.3	713.4
41.5°	969.8	1153.8	1253.2	1301.5	1179.3	1150.1	1101.8	1007.9	864.4	729.2	681.4
42°	921.1	1094.3	1192.3	1236.5	1120.8	1086.4	1043.2	955.0	821.2	695.8	648.9
42.5°	874.6	1038.1	1132.9	1173.3	1060.9	1026.5	987.0	905.7	778.5	661.4	617.8
43°	831.0	984.7	1075.7	1110.1	1003.7	968.4	931.8	857.4	738.1	629.4	588.0
43.5°	786.8	932.7	1018.1	1049.7	948.0	914.1	877.9	811.5	700.0	598.3	558.3



TEST NUMBER: P776576

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRH-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	668.9	788.2	852.8	881.6	792.4	763.6	728.8	684.2	593.1	510.9	476.1
45.5°	632.6	744.1	801.2	831.4	745.0	719.0	686.0	645.2	560.6	483.5	450.1
46°	596.9	701.4	752.0	782.2	698.1	676.8	644.7	608.5	529.0	456.6	426.9
46.5°	563.4	662.8	709.3	737.1	655.4	636.3	606.6	573.2	498.9	431.0	403.6
47°	531.4	624.7	667.9	693.0	613.6	597.3	570.4	538.8	468.7	406.9	379.9
47.5°	500.7	588.5	628.0	651.7	576.0	561.1	536.9	506.3	441.7	383.2	356.7
48°	471.0	553.7	590.8	612.7	539.7	526.7	504.4	475.6	416.2	359.0	333.5
48.5°	441.7	520.7	556.5	574.6	504.9	493.7	473.8	446.4	391.1	335.4	307.5
49°	414.8	488.6	523.0	540.7	473.3	462.6	444.5	420.4	365.5	308.0	278.7
49.5°	391.1	458.4	491.4	505.8	442.7	436.6	419.0	394.3	340.0	278.2	249.4
50°	366.0	430.1	460.8	475.2	417.1	410.6	393.4	368.8	314.0	249.0	220.2
50.5°	342.3	403.6	432.0	443.1	391.6	384.1	367.4	342.8	283.3	219.7	194.2
51°	317.2	377.6	405.0	415.7	365.5	358.1	341.9	316.8	252.7	192.3	169.1
51.5°	289.4	353.0	379.5	389.2	340.0	332.1	315.8	287.1	223.0	167.7	146.8
52°	259.6	327.5	353.5	363.7	314.0	305.6	285.7	256.4	195.1	146.8	128.7
52.5°	230.8	299.6	327.5	339.5	285.7	276.4	254.5	225.7	170.0	128.2	112.9
53°	202.0	268.9	299.1	312.6	255.0	245.2	223.9	197.4	148.2	112.9	99.4
53.5°	176.0	238.7	268.0	284.3	225.7	215.1	196.0	171.4	129.6	99.4	87.8
54°	158.9	209.0	236.0	252.7	196.5	187.7	169.5	149.6	113.8	88.3	78.0
54.5°	141.7	182.5	206.2	223.0	170.0	162.6	146.8	130.5	100.3	78.0	69.7
55°	124.5	157.9	179.8	192.8	147.2	140.7	127.7	114.3	88.3	69.7	62.2
55.5°	107.3	142.1	157.5	168.1	127.3	122.2	111.9	99.9	78.5	62.2	55.7
56°	90.6	125.9	140.7	151.4	110.5	105.9	98.0	88.3	69.7	55.7	50.2
56.5°	79.9	109.6	124.5	134.7	96.6	93.4	86.4	78.0	62.2	50.2	45.1
57°	70.6	93.8	108.2	118.0	85.0	82.2	76.2	69.2	55.7	45.5	41.3
57.5°	63.2	83.1	92.0	101.7	74.8	72.5	67.8	61.8	50.2	41.8	38.1
58°	56.2	73.9	81.3	85.0	66.4	64.6	60.4	55.3	45.1	38.1	34.4
58.5°	50.6	65.5	72.0	74.8	59.0	57.6	53.9	49.2	41.3	34.4	31.1
59°	45.5	58.5	64.1	66.4	52.5	51.1	48.3	44.6	38.1	31.1	27.4
59.5°	40.9	52.5	57.1	59.0	46.9	46.0	44.6	40.9	34.4	27.4	25.1
60°	36.7	46.9	51.1	52.5	43.2	42.3	40.9	37.6	30.7	25.1	22.8
60.5°	33.4	42.3	46.0	46.9	39.5	38.6	37.2	33.9	27.4	22.8	20.4
61°	30.2	38.1	41.3	42.3	35.8	34.8	33.4	30.2	24.6	20.4	19.0
61.5°	27.4	34.4	37.2	38.1	32.0	31.1	29.7	26.9	22.3	19.0	17.2
62°	24.6	31.1	33.4	34.4	27.9	27.4	26.0	24.2	20.4	17.2	15.8
62.5°	22.8	28.3	30.7	31.1	25.5	25.1	23.7	22.3	18.6	15.8	14.4
63°	20.4	25.5	27.9	28.3	23.2	22.8	21.4	20.0	17.2	14.4	13.0
63.5°	18.6	23.2	25.1	25.5	20.9	20.4	19.5	18.1	15.3	13.0	12.1
64°	17.2	21.4	22.8	23.2	19.0	18.6	17.7	16.7	14.4	12.1	11.1
64.5°	15.8	19.5	20.9	20.9	17.2	17.2	16.3	15.3	13.0	11.1	10.2
65°	14.9	17.7	19.0	19.0	15.8	15.8	14.9	13.9	12.1	10.2	9.3
65.5°	13.5	16.3	17.2	17.7	14.4	14.4	13.5	12.5	11.1	9.3	8.4
66°	12.1	14.9	15.8	16.3	13.5	13.0	12.5	11.6	9.8	8.4	7.9





TEST NUMBER: P776576

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRH-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	9.3	11.1	12.1	12.1	10.2	10.2	9.3	8.8	7.4	6.5	6.0
68°	8.4	10.2	11.1	11.1	9.3	9.3	8.8	8.4	7.0	6.0	5.6
68.5°	7.4	9.3	10.2	10.2	8.4	8.4	7.9	7.4	6.5	5.6	5.1
69°	7.0	8.8	9.3	9.3	7.9	7.9	7.4	7.0	6.0	5.1	4.6
69.5°	6.5	7.9	8.4	8.8	7.4	7.0	6.5	6.5	5.1	4.6	4.2
70°	5.6	7.4	7.9	7.9	6.5	6.5	6.0	5.6	4.6	4.2	3.7
70.5°	5.1	6.5	7.0	7.4	6.0	6.0	5.6	5.1	4.6	3.7	3.7
71°	4.6	6.0	6.5	6.5	5.6	5.6	5.1	4.6	4.2	3.7	3.3
71.5°	4.2	5.6	6.0	6.0	5.1	5.1	4.6	4.6	3.7	3.3	3.3
72°	4.2	5.1	5.6	5.6	4.6	4.6	4.2	4.2	3.3	2.8	2.8
72.5°	3.7	4.6	5.1	5.1	4.2	4.2	4.2	3.7	3.3	2.8	2.3
73°	3.3	4.2	4.6	4.6	4.2	3.7	3.7	3.3	2.8	2.3	2.3
73.5°	3.3	3.7	4.2	4.2	3.7	3.7	3.3	3.3	2.3	2.3	2.3
74°	2.8	3.7	3.7	4.2	3.3	3.3	3.3	2.8	2.3	1.9	1.9
74.5°	2.3	3.3	3.7	3.7	3.3	2.8	2.8	2.8	2.3	1.9	1.9
75°	2.3	2.8	3.3	3.3	2.8	2.8	2.8	2.3	1.9	1.4	1.4
75.5°	1.9	2.8	2.8	3.3	2.8	2.3	2.3	2.3	1.9	1.4	1.4
76°	1.9	2.3	2.8	2.8	2.3	2.3	2.3	1.9	1.4	1.4	1.4
76.5°	1.9	2.3	2.3	2.8	2.3	2.3	1.9	1.9	1.4	0.9	0.9
77°	1.4	1.9	2.3	2.3	1.9	1.9	1.9	1.4	1.4	0.9	0.9
77.5°	1.4	1.9	1.9	2.3	1.9	1.9	1.4	1.4	0.9	0.9	0.9
78°	1.4	1.4	1.9	1.9	1.9	1.4	1.4	1.4	0.9	0.9	0.9
78.5°	0.9	1.4	1.9	1.9	1.4	1.4	1.4	0.9	0.9	0.9	0.9
79°	0.9	1.4	1.4	1.4	1.4	1.4	1.4	0.9	0.9	0.5	0.5
79.5°	0.9	1.4	1.4	1.4	1.4	1.4	0.9	0.9	0.9	0.5	0.5
80°	0.9	0.9	1.4	1.4	0.9	0.9	0.9	0.9	0.5	0.5	0.5
80.5°	0.5	0.9	0.9	1.4	0.9	0.9	0.9	0.9	0.5	0.5	0.5
81°	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.5
81.5°	0.5	0.9	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.5	0.5
82°	0.5	0.5	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.0	0.5
82.5°	0.5	0.5	0.9	0.9	0.5	0.5	0.5	0.5	0.5	0.0	0.0
83°	0.5	0.5	0.5	0.9	0.5	0.5	0.5	0.5	0.0	0.0	0.0
83.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0
84°	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0
84.5°	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.5	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: P776576  
CATALOG NUMBER: HCDJBL54050CSD-HCD42TRH-5000lm-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: P776576

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRH-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	4624.4	4624.4	4624.4	4624.4	4624.4	4624.4
0.5°	4607.7	4623.9	4624.4	4623.9	4623.5	4625.8
1°	4597.0	4617.0	4617.9	4618.4	4618.8	4625.3
1.5°	4584.9	4608.1	4608.6	4610.5	4613.2	4622.5
2°	4571.9	4597.0	4598.8	4600.7	4604.9	4617.9
2.5°	4557.5	4584.9	4586.3	4589.6	4594.7	4612.3
3°	4541.7	4571.0	4573.3	4577.0	4584.0	4604.9
3.5°	4525.9	4556.6	4558.9	4563.5	4572.4	4596.5
4°	4508.3	4540.8	4543.1	4549.1	4559.4	4587.2
4.5°	4490.6	4524.1	4525.9	4533.4	4545.4	4577.0
5°	4469.3	4505.9	4509.2	4517.1	4531.5	4566.8
5.5°	4446.5	4486.4	4490.2	4499.9	4516.2	4554.7
6°	4421.9	4465.5	4470.2	4481.3	4499.4	4541.2
6.5°	4391.2	4441.8	4446.5	4460.9	4481.3	4526.8
7°	4360.1	4414.9	4421.9	4439.1	4462.3	4512.0
7.5°	4321.5	4386.1	4393.5	4415.4	4442.3	4496.2
8°	4283.5	4351.3	4363.3	4388.4	4419.1	4477.6
8.5°	4237.9	4314.1	4328.5	4358.2	4393.5	4458.1
9°	4191.0	4272.8	4290.0	4325.3	4366.6	4436.3
9.5°	4139.5	4227.7	4246.8	4288.6	4336.9	4413.5
10°	4087.9	4178.9	4201.2	4247.7	4304.4	4388.4
10.5°	4036.4	4126.9	4152.5	4203.6	4266.7	4360.6
11°	3986.2	4074.4	4102.3	4157.1	4227.3	4331.3
11.5°	3936.0	4021.5	4048.4	4107.9	4185.5	4299.3
12°	3896.1	3971.3	3999.7	4058.2	4139.9	4264.9
12.5°	3856.6	3924.9	3950.4	4008.5	4092.6	4228.2
13°	3819.4	3881.7	3908.2	3964.4	4047.5	4188.2
13.5°	3784.1	3841.7	3868.7	3920.7	4003.4	4146.9
14°	3747.9	3804.1	3831.1	3882.1	3960.6	4106.5
14.5°	3717.3	3769.7	3796.7	3845.9	3920.7	4066.1
15°	3682.4	3734.0	3761.8	3809.7	3882.6	4024.3
15.5°	3651.8	3701.0	3728.4	3774.4	3846.4	3985.3
16°	3620.6	3669.9	3694.5	3739.5	3809.7	3947.2
16.5°	3585.3	3637.8	3662.9	3706.6	3773.9	3912.8
17°	3547.7	3607.6	3630.4	3672.7	3741.9	3877.0
17.5°	3498.5	3573.7	3597.9	3639.2	3707.5	3842.2
18°	3449.7	3534.2	3559.8	3605.8	3674.1	3807.8
18.5°	3400.9	3490.1	3518.5	3567.2	3638.8	3774.9
19°	3352.2	3442.3	3475.3	3527.3	3602.1	3742.3
19.5°	3302.9	3389.8	3426.5	3480.4	3561.7	3708.4
20°	3243.5	3334.1	3373.5	3431.6	3518.9	3673.1
20.5°	3179.4	3276.5	3319.2	3378.2	3472.0	3635.5
21°	3116.2	3219.3	3259.7	3320.1	3421.4	3594.2



TEST NUMBER: P776576

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRH-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2921.6	3046.5	3070.2	3128.3	3249.1	3457.6
23°	2853.3	2985.2	3002.9	3061.9	3188.2	3408.4
23.5°	2790.1	2921.6	2936.0	2998.2	3125.0	3356.4
24°	2718.6	2852.9	2870.5	2933.7	3063.3	3303.4
24.5°	2653.6	2785.0	2801.3	2868.6	2999.6	3250.0
25°	2584.8	2710.3	2734.4	2806.4	2939.7	3193.3
25.5°	2517.5	2640.1	2667.5	2741.4	2877.9	3133.4
26°	2449.2	2569.1	2598.8	2677.3	2817.1	3070.2
26.5°	2382.8	2498.0	2532.8	2609.9	2754.4	3004.3
27°	2313.6	2422.7	2462.2	2542.1	2688.4	2937.4
27.5°	2246.7	2350.7	2393.0	2473.4	2622.0	2869.1
28°	2177.5	2277.8	2323.3	2398.6	2553.3	2798.0
28.5°	2108.8	2204.0	2255.1	2331.7	2482.7	2727.0
29°	2036.3	2132.9	2184.5	2260.6	2411.6	2653.6
29.5°	1964.3	2061.4	2116.2	2191.9	2336.3	2583.9
30°	1895.6	1992.6	2047.0	2125.0	2264.8	2511.0
30.5°	1824.0	1924.8	1975.4	2056.3	2190.5	2436.2
31°	1757.6	1859.3	1905.3	1988.9	2117.1	2362.4
31.5°	1691.2	1793.8	1834.7	1921.6	2044.2	2287.1
32°	1627.1	1730.2	1766.9	1854.2	1974.1	2211.9
32.5°	1564.8	1663.8	1699.5	1786.9	1904.8	2137.1
33°	1501.2	1602.5	1636.8	1717.7	1834.7	2061.8
33.5°	1441.3	1541.2	1573.7	1643.8	1765.0	1988.9
34°	1380.0	1479.8	1510.5	1580.2	1695.4	1912.7
34.5°	1321.9	1418.5	1447.3	1516.5	1626.6	1839.4
35°	1264.8	1359.1	1384.6	1452.9	1557.9	1766.0
35.5°	1208.1	1304.3	1324.7	1389.3	1489.1	1693.5
36°	1153.8	1249.5	1267.1	1326.6	1420.4	1627.5
36.5°	1102.2	1198.8	1210.0	1264.8	1352.1	1561.1
37°	1051.6	1145.4	1155.6	1203.0	1287.1	1494.7
37.5°	1003.7	1094.8	1101.8	1142.2	1225.3	1428.7
38°	956.4	1045.1	1050.7	1083.2	1164.9	1362.3
38.5°	910.4	996.8	1001.0	1025.6	1109.2	1299.6
39°	867.7	952.7	952.7	968.9	1054.8	1240.6
39.5°	823.5	906.2	907.6	916.9	1001.4	1183.5
40°	783.6	864.4	862.1	866.7	949.4	1128.2
40.5°	743.6	821.7	819.3	821.2	899.2	1072.5
41°	706.0	782.2	777.5	778.0	852.8	1020.0
41.5°	671.2	742.2	737.6	739.5	808.2	969.8
42°	636.8	705.5	700.4	702.8	767.3	921.1
42.5°	604.8	669.3	664.7	668.9	726.9	874.6
43°	571.8	634.5	630.3	636.3	689.8	831.0
43.5°	542.1	601.0	597.8	606.1	654.5	786.8



TEST NUMBER: P776576

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRH-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	457.1	507.7	507.2	519.3	559.7	668.9
45.5°	432.0	478.4	478.9	492.8	530.4	632.6
46°	408.7	450.5	451.9	465.9	502.1	596.9
46.5°	385.5	424.5	426.4	440.3	474.7	563.4
47°	362.3	400.4	402.7	416.2	448.2	531.4
47.5°	338.6	377.6	379.5	393.0	422.2	500.7
48°	316.3	354.4	357.2	370.7	398.1	471.0
48.5°	288.9	332.6	335.8	348.8	375.3	441.7
49°	260.1	308.4	312.6	327.0	352.5	414.8
49.5°	230.8	282.4	287.5	303.8	329.8	391.1
50°	203.0	254.1	260.1	277.8	306.1	366.0
50.5°	177.4	224.8	232.2	249.9	278.7	342.3
51°	153.3	196.5	203.9	222.5	250.4	317.2
51.5°	133.8	171.4	177.9	195.1	222.5	289.4
52°	116.6	154.2	160.7	170.0	194.6	259.6
52.5°	102.7	137.5	143.1	153.3	169.5	230.8
53°	90.1	121.2	125.4	136.6	153.3	202.0
53.5°	79.9	104.5	108.2	120.3	136.6	176.0
54°	71.1	87.8	90.6	103.6	119.8	158.9
54.5°	63.6	77.1	79.9	86.9	103.1	141.7
55°	56.7	68.7	71.1	77.1	86.9	124.5
55.5°	51.1	61.3	63.2	68.3	76.6	107.3
56°	46.0	54.8	56.7	60.8	68.3	90.6
56.5°	42.3	49.2	50.6	54.3	60.8	79.9
57°	38.6	44.6	45.5	48.8	54.3	70.6
57.5°	34.8	39.9	40.9	43.7	48.8	63.2
58°	31.1	36.2	37.2	39.5	43.7	56.2
58.5°	27.9	32.5	33.4	35.8	39.5	50.6
59°	25.1	29.7	30.2	32.5	35.8	45.5
59.5°	22.8	26.9	27.4	29.3	32.0	40.9
60°	20.9	24.6	25.1	26.5	29.3	36.7
60.5°	19.0	22.3	22.8	24.2	26.5	33.4
61°	17.2	20.0	20.4	21.8	24.2	30.2
61.5°	15.8	18.6	19.0	20.0	21.8	27.4
62°	14.4	17.2	17.7	18.1	20.0	24.6
62.5°	13.0	15.8	16.3	16.7	18.1	22.8
63°	12.1	14.4	14.9	15.3	16.7	20.4
63.5°	11.1	13.0	13.5	13.9	15.3	18.6
64°	10.2	11.6	12.1	12.5	13.9	17.2
64.5°	9.3	10.7	11.1	11.6	12.5	15.8
65°	8.4	9.8	10.2	10.7	11.6	14.9
65.5°	7.9	9.3	9.3	9.8	10.7	13.5
66°	7.0	8.4	8.4	8.8	9.8	12.1



TEST NUMBER: P776576

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRH-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	5.6	6.5	6.5	7.0	7.4	9.3
68°	5.1	6.0	6.0	6.5	7.0	8.4
68.5°	4.6	5.6	5.6	6.0	6.5	7.4
69°	4.2	5.1	5.1	5.1	5.6	7.0
69.5°	3.7	4.6	4.6	5.1	5.1	6.5
70°	3.7	4.2	4.2	4.6	4.6	5.6
70.5°	3.3	3.7	3.7	4.2	4.2	5.1
71°	3.3	3.7	3.7	3.7	4.2	4.6
71.5°	2.8	3.3	3.3	3.3	3.7	4.2
72°	2.3	2.8	2.8	3.3	3.3	4.2
72.5°	2.3	2.8	2.8	2.8	3.3	3.7
73°	2.3	2.3	2.3	2.8	2.8	3.3
73.5°	1.9	2.3	2.3	2.3	2.3	3.3
74°	1.9	1.9	1.9	2.3	2.3	2.8
74.5°	1.4	1.9	1.9	1.9	1.9	2.3
75°	1.4	1.9	1.9	1.9	1.9	2.3
75.5°	1.4	1.4	1.4	1.9	1.9	1.9
76°	1.4	1.4	1.4	1.4	1.4	1.9
76.5°	0.9	1.4	1.4	1.4	1.4	1.9
77°	0.9	0.9	1.4	1.4	1.4	1.4
77.5°	0.9	0.9	0.9	0.9	0.9	1.4
78°	0.9	0.9	0.9	0.9	0.9	1.4
78.5°	0.9	0.9	0.9	0.9	0.9	0.9
79°	0.5	0.9	0.9	0.9	0.9	0.9
79.5°	0.5	0.5	0.5	0.5	0.5	0.9
80°	0.5	0.5	0.5	0.5	0.5	0.9
80.5°	0.5	0.5	0.5	0.5	0.5	0.5
81°	0.5	0.5	0.5	0.5	0.5	0.5
81.5°	0.5	0.5	0.5	0.5	0.5	0.5
82°	0.5	0.5	0.5	0.5	0.5	0.5
82.5°	0.0	0.5	0.5	0.5	0.5	0.5
83°	0.0	0.5	0.5	0.5	0.0	0.5
83.5°	0.0	0.0	0.0	0.0	0.0	0.5
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: P776576

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRH-5000lm-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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Scaled Data Report



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Scaled Data Report





21.5°	3550.5	3714.9	3804.6	3848.7	3779.5	3755.8	3703.3	3593.7	3413.9	3206.3	3091.1
22°	3505.5	3678.7	3770.2	3813.9	3737.7	3717.3	3665.2	3552.4	3366.6	3140.8	3028.0



44°	745.5	881.6	960.6	992.1	895.5	861.6	824.9	766.4	663.3	569.0	530.4
44.5°	706.5	833.7	906.2	935.9	843.5	811.0	776.2	725.1	627.5	539.3	503.0



66.5°	10.7	13.5	14.9	14.9	12.1	11.1	10.7	9.3	7.9	7.0
67°	9.8	12.1	13.5	13.5	11.1	10.7	9.8	8.4	7.0	6.5



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°	3052.1	3162.2	3198.4	3257.4	3367.0	3550.5
22°	2988.9	3104.1	3134.8	3191.9	3309.0	3505.5



44°	513.3	568.5	566.2	575.5	621.0	745.5
44.5°	484.9	537.4	536.0	547.6	590.4	706.5

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66.5°	6.5	7.4	7.9	8.4	8.8	10.7
67°	6.0	7.0	7.0	7.4	8.4	9.8

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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)