

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: P776369

Luminaire Tested: HCDJBL3040CSD-HCD62TRH-4000lm-5000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776369
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B056)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD62TRH-4000lm-5000K
Description: 6 INCH ROUND NARROW HAZE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4311.5 lumens
Efficiency: N/A
Efficacy: 112.0 lumens/watt
Spacing Criteria (0/90/45): 0.83 / 0.82 / 0.91
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

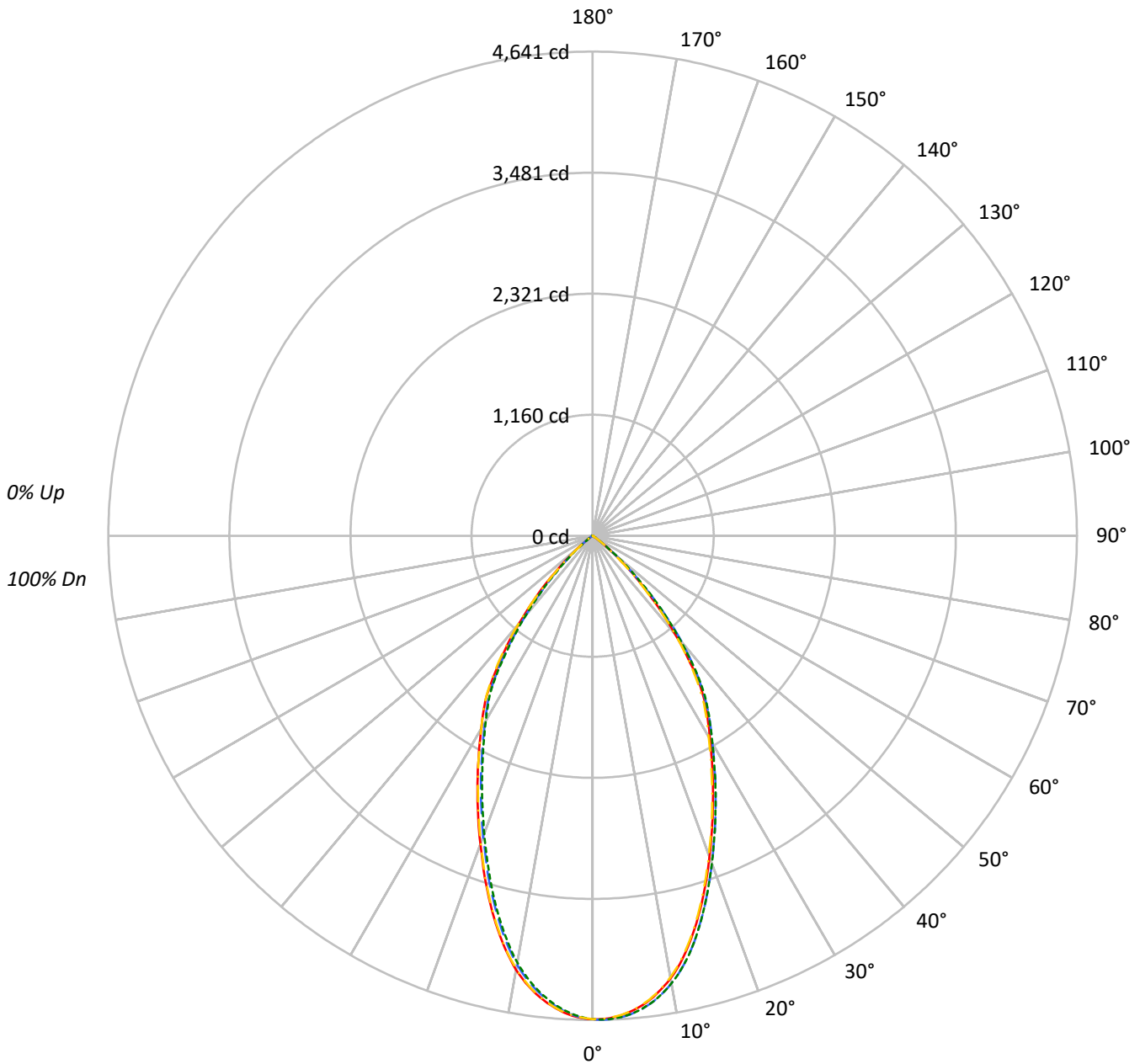
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				
RW	70	50	30	10	70	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	113	110	108	106	111	108	106	104	104	102	101	100	99	98	97	96	95	93		
2	107	102	98	95	105	101	97	93	97	94	91	94	92	89	92	89	88	86		
3	102	95	90	86	100	93	89	85	91	87	83	88	85	82	86	83	81	79		
4	96	88	82	78	94	87	82	77	85	80	77	83	79	76	81	78	75	73		
5	91	82	76	71	89	81	75	71	79	74	70	78	73	70	76	72	69	68		
6	86	77	70	66	84	76	70	66	74	69	65	73	68	65	71	67	64	63		
7	81	72	65	61	80	71	65	61	70	64	60	68	64	60	67	63	60	58		
8	77	67	61	57	76	67	61	56	65	60	56	64	59	56	63	59	56	54		
9	73	63	57	53	72	63	57	53	62	56	52	61	56	52	60	55	52	51		
10	70	59	53	49	69	59	53	49	58	53	49	57	52	49	57	52	49	47		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	254009	254009	254009	254009
5°	251061	252481	248855	247011
10°	239731	242442	235110	231191
15°	218066	221993	211148	205648
20°	191082	194920	183468	177215
25°	165233	168723	157812	151479
30°	142547	145269	135242	129577
35°	122509	125380	111641	105725
40°	88258	93590	78340	71484
45°	52261	58386	44586	38725
50°	21662	25330	15317	12767
55°	3680	4846	3680	2428
60°	1524	1436	1480	1206
65°	908	843	908	739
70°	593	593	593	529
75°	424	339	424	339
80°	253	253	253	253
85°	0	252	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°

Vertical Angle: 45°

Luminance: 62130 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	424.5	9.8
10°-20°	1049.3	24.3
20°-30°	1220.7	28.3
30°-40°	1061.7	24.6
40°-50°	488.4	11.3
50°-60°	57.6	1.3
60°-70°	6.9	0.2
70°-80°	2.0	0.0
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°	2694.6	62.5
0°-40°	3756.2	87.1
0°-60°	4302.2	99.8
0°-90°	4311.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4311.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	4634	4634	4634	4634	4634	
5°	4562	4588	4522	4489	4562	427
15°	3842	3912	3720	3624	3842	1068
25°	2732	2789	2609	2504	2732	1254
35°	1831	1874	1668	1580	1831	1112
45°	674	753	575	500	674	529
55°	38	51	38	25	38	64
65°	7	6	7	6	7	7
75°	2	2	2	2	2	2
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°	4633.5	4633.5	4633.5	4633.5	4633.5	4633.5	4633.5	4633.5	4633.5	4633.5	4633.5
0.5°	4635.5	4638.8	4639.2	4635.5	4636.3	4633.9	4632.2	4633.1	4632.2	4632.7	4631.8
1°	4634.7	4639.2	4640.8	4638.8	4637.6	4633.9	4631.8	4630.2	4627.7	4627.3	4625.7
1.5°	4631.0	4637.6	4640.8	4640.0	4637.6	4632.7	4629.0	4625.3	4621.2	4619.2	4616.7
2°	4626.9	4635.1	4638.8	4639.6	4635.5	4630.2	4624.9	4618.3	4613.0	4609.3	4605.2
2.5°	4620.4	4630.2	4634.7	4637.6	4632.2	4624.9	4617.9	4609.3	4602.8	4597.5	4592.2
3°	4612.2	4623.7	4628.6	4634.3	4626.5	4618.7	4609.3	4599.5	4590.1	4583.6	4577.0
3.5°	4602.8	4615.1	4621.6	4629.0	4620.0	4611.0	4599.1	4587.7	4576.2	4567.2	4560.7
4°	4590.9	4604.8	4612.2	4621.6	4611.8	4600.7	4587.7	4572.9	4559.8	4549.6	4542.3
4.5°	4577.4	4593.0	4602.0	4612.2	4601.2	4588.5	4573.8	4557.4	4541.8	4530.0	4521.8
5°	4562.3	4579.5	4588.5	4602.0	4588.1	4575.0	4557.8	4539.8	4522.2	4508.3	4498.5
5.5°	4545.9	4564.3	4574.6	4588.9	4574.2	4558.6	4540.2	4521.0	4501.3	4485.4	4474.8
6°	4526.7	4546.8	4559.0	4575.0	4557.8	4541.0	4521.4	4498.1	4477.2	4460.0	4448.6
6.5°	4506.7	4528.8	4541.0	4558.6	4539.4	4521.8	4500.1	4474.8	4452.7	4434.7	4421.2
7°	4483.3	4507.1	4520.6	4541.0	4520.2	4500.9	4476.8	4450.2	4426.1	4406.9	4392.5
7.5°	4458.4	4484.2	4498.5	4520.6	4497.7	4476.0	4451.4	4424.4	4396.6	4375.8	4361.0
8°	4431.8	4458.4	4473.1	4498.5	4473.5	4449.8	4424.4	4394.6	4366.4	4343.9	4327.5
8.5°	4403.6	4432.2	4447.3	4474.3	4446.5	4423.6	4395.4	4363.1	4333.6	4309.9	4292.7
9°	4372.9	4403.2	4418.3	4446.9	4418.3	4394.2	4364.7	4330.4	4299.3	4273.5	4255.5
9.5°	4340.6	4371.7	4388.9	4418.3	4388.0	4362.3	4331.2	4297.2	4262.5	4235.9	4216.2
10°	4306.6	4338.1	4355.7	4387.6	4355.3	4328.7	4296.8	4258.4	4223.6	4195.8	4174.1
10.5°	4269.4	4304.6	4321.8	4355.3	4322.2	4294.4	4258.8	4219.5	4181.5	4150.4	4128.3
11°	4231.0	4267.0	4285.0	4321.4	4285.0	4255.9	4219.9	4177.0	4136.9	4101.7	4080.0
11.5°	4189.2	4226.0	4245.3	4284.5	4246.1	4215.8	4177.8	4132.8	4089.4	4054.2	4031.3
12°	4144.2	4183.9	4202.7	4244.5	4204.4	4172.5	4132.0	4084.5	4041.6	4005.6	3980.6
12.5°	4098.0	4138.1	4159.0	4201.9	4161.0	4127.1	4084.9	4037.1	3990.4	3953.2	3927.8
13°	4050.1	4091.5	4113.6	4157.7	4114.8	4080.4	4037.5	3987.2	3939.3	3900.0	3873.8
13.5°	4000.7	4043.2	4066.1	4111.9	4066.9	4030.9	3987.2	3935.6	3886.1	3845.6	3817.8
14°	3949.1	3993.3	4015.8	4065.3	4016.2	3981.0	3935.2	3882.0	3831.7	3792.0	3763.4
14.5°	3896.7	3941.3	3965.1	4012.9	3964.2	3927.4	3881.2	3827.6	3777.3	3733.9	3706.5
15°	3842.3	3888.6	3910.7	3963.4	3911.5	3873.4	3827.2	3772.8	3720.4	3678.3	3649.3
15.5°	3787.1	3833.8	3855.8	3909.8	3857.9	3819.0	3772.8	3717.2	3664.0	3621.0	3591.2
16°	3731.9	3778.9	3801.4	3855.0	3801.8	3763.4	3717.6	3659.9	3607.1	3564.2	3533.9
16.5°	3676.7	3723.7	3747.0	3800.2	3745.8	3707.8	3661.5	3604.3	3551.1	3505.7	3476.2
17°	3621.0	3667.3	3689.4	3744.6	3689.8	3650.9	3603.0	3546.6	3493.0	3447.2	3416.9
17.5°	3563.0	3610.4	3632.1	3686.9	3631.7	3592.0	3545.8	3490.1	3434.5	3389.5	3356.8
18°	3505.7	3552.3	3574.8	3629.6	3574.0	3534.3	3488.1	3432.1	3375.6	3329.8	3296.2
18.5°	3448.4	3495.5	3516.7	3571.1	3515.5	3477.0	3430.4	3371.9	3317.5	3270.5	3236.9
19°	3390.3	3438.2	3457.4	3512.2	3457.8	3419.4	3371.1	3313.8	3257.8	3210.7	3178.0
19.5°	3333.5	3380.1	3400.1	3453.7	3399.3	3361.3	3312.2	3257.4	3199.3	3155.5	3122.8
20°	3275.4	3321.6	3340.8	3395.6	3341.2	3302.4	3255.3	3198.1	3144.9	3100.3	3067.2
20.5°	3217.7	3265.2	3284.0	3336.3	3282.3	3243.9	3197.2	3143.7	3090.5	3045.1	3011.5
21°	3161.3	3208.3	3227.9	3280.3	3224.7	3187.0	3142.8	3089.3	3036.1	2989.9	2955.9



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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°	2995.6	3040.2	3058.2	3107.3	3059.4	3023.0	2980.0	2926.0	2871.2	2825.0	2790.6
23°	2941.6	2984.5	3003.4	3051.6	3004.6	2968.2	2925.6	2870.8	2818.0	2770.2	2737.9
23.5°	2888.8	2930.5	2948.9	2996.4	2950.2	2913.4	2870.0	2817.6	2764.5	2717.8	2685.1
24°	2834.8	2877.8	2894.5	2940.8	2895.4	2859.4	2816.0	2765.3	2712.1	2665.5	2631.9
24.5°	2783.7	2825.0	2840.5	2886.4	2842.2	2803.7	2763.2	2712.9	2659.7	2614.3	2580.8
25°	2731.7	2772.6	2788.2	2834.0	2789.4	2751.8	2710.1	2660.1	2609.0	2563.2	2530.1
25.5°	2680.6	2720.7	2736.2	2781.6	2736.2	2701.1	2658.5	2609.8	2559.1	2512.5	2481.0
26°	2630.3	2671.6	2685.1	2728.9	2684.7	2650.7	2608.2	2559.9	2509.2	2463.4	2431.9
26.5°	2581.2	2619.2	2634.8	2675.7	2634.0	2598.8	2557.9	2509.6	2459.3	2414.3	2381.2
27°	2531.3	2569.3	2583.7	2625.4	2583.2	2547.2	2507.6	2460.5	2410.6	2366.0	2333.3
27.5°	2482.2	2520.2	2533.7	2575.5	2532.9	2500.2	2458.9	2411.4	2362.3	2318.6	2285.9
28°	2434.3	2473.2	2484.7	2526.0	2483.0	2450.7	2409.8	2364.4	2315.3	2270.7	2239.6
28.5°	2386.5	2425.3	2436.4	2476.9	2435.2	2401.6	2362.3	2316.5	2267.9	2224.5	2193.4
29°	2341.1	2377.1	2388.9	2427.4	2387.3	2354.6	2316.9	2270.7	2223.7	2179.9	2148.4
29.5°	2296.5	2331.7	2341.5	2380.3	2341.1	2308.8	2270.7	2226.1	2179.1	2136.5	2105.5
30°	2251.9	2287.5	2297.3	2334.9	2294.9	2264.2	2226.1	2182.4	2136.5	2093.2	2063.3
30.5°	2208.5	2243.3	2253.5	2289.9	2250.7	2219.6	2182.8	2138.6	2093.6	2051.0	2022.0
31°	2166.4	2200.4	2210.2	2244.9	2208.1	2177.5	2139.8	2096.9	2051.5	2009.7	1980.3
31.5°	2123.9	2157.4	2167.2	2202.0	2165.6	2135.7	2098.1	2056.0	2011.0	1969.6	1941.0
32°	2084.2	2117.7	2126.3	2159.5	2124.7	2093.6	2058.4	2016.3	1970.9	1929.6	1900.5
32.5°	2044.5	2076.8	2085.4	2117.7	2083.0	2053.1	2017.1	1974.6	1930.8	1889.1	1861.2
33°	2004.8	2036.7	2045.3	2077.2	2044.1	2013.0	1976.6	1932.4	1887.4	1844.5	1815.4
33.5°	1963.1	1995.0	2002.8	2036.3	2002.8	1972.9	1933.2	1884.6	1838.7	1792.9	1761.4
34°	1921.8	1952.5	1957.0	1995.0	1962.3	1930.8	1887.4	1834.2	1786.0	1739.3	1708.3
34.5°	1875.6	1906.2	1907.5	1950.4	1919.3	1886.6	1837.5	1781.9	1727.1	1684.1	1650.2
35°	1830.6	1857.2	1858.0	1901.3	1873.5	1841.2	1787.6	1729.9	1668.2	1627.7	1593.7
35.5°	1780.7	1806.4	1808.5	1853.1	1826.5	1794.2	1736.9	1675.1	1606.4	1565.1	1538.5
36°	1727.5	1753.7	1758.2	1802.7	1777.4	1743.8	1686.2	1619.9	1548.7	1502.9	1482.9
36.5°	1669.0	1699.3	1707.8	1753.7	1723.4	1689.0	1632.6	1563.0	1491.4	1442.0	1422.7
37°	1605.6	1643.6	1657.1	1703.3	1668.2	1630.9	1577.8	1505.8	1436.6	1381.8	1364.6
37.5°	1539.7	1586.4	1605.2	1651.8	1609.7	1572.4	1521.7	1446.0	1381.0	1322.5	1303.7
38°	1475.9	1529.9	1550.8	1599.0	1549.5	1513.1	1464.9	1389.2	1326.2	1264.4	1244.0
38.5°	1415.4	1470.6	1495.1	1546.3	1487.8	1449.7	1406.0	1331.9	1268.9	1208.8	1180.6
39°	1354.8	1409.6	1439.1	1492.7	1426.4	1385.1	1347.5	1275.9	1212.5	1155.2	1122.9
39.5°	1293.9	1348.7	1382.6	1435.4	1367.1	1323.3	1286.1	1219.4	1154.0	1097.9	1062.7
40°	1233.3	1287.7	1326.2	1378.1	1307.8	1264.4	1224.3	1163.8	1094.7	1040.7	1005.9
40.5°	1172.8	1227.2	1269.7	1320.9	1248.9	1205.1	1161.3	1108.2	1036.6	985.8	947.0
41°	1115.1	1166.2	1213.7	1263.6	1192.4	1147.4	1098.7	1052.1	982.6	931.0	890.9
41.5°	1055.8	1106.9	1154.4	1206.3	1136.0	1087.3	1037.4	995.3	929.0	877.0	834.1
42°	999.3	1051.3	1094.7	1146.2	1080.7	1030.8	977.7	937.6	877.0	823.4	779.3
42.5°	941.3	996.5	1035.8	1086.9	1024.3	975.2	919.6	880.7	826.7	771.9	727.3
43°	885.2	940.8	975.6	1029.2	968.7	919.6	863.5	825.1	776.0	724.0	678.2
43.5°	828.8	883.2	915.1	971.1	913.4	862.7	807.9	769.5	724.5	673.3	628.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	674.1	723.2	744.1	801.4	753.1	703.2	652.9	609.9	575.1	531.8	495.8
45.5°	624.2	671.7	688.9	747.4	702.0	652.9	603.0	560.4	527.7	486.4	454.5
46°	577.6	621.4	636.5	693.4	653.7	603.4	555.9	512.6	482.3	443.8	416.0
46.5°	531.0	572.3	585.0	641.0	603.0	555.5	509.7	465.9	438.1	407.0	382.1
47°	486.0	525.2	534.2	589.1	553.5	512.1	465.1	426.2	397.6	370.6	348.5
47.5°	442.2	479.4	486.8	540.0	506.8	468.8	423.0	387.0	357.5	333.8	314.6
48°	401.3	434.4	441.4	490.9	462.7	426.2	385.3	347.7	317.0	297.4	280.6
48.5°	362.0	389.8	398.4	443.8	421.3	388.2	347.7	308.4	276.5	260.6	251.6
49°	324.8	348.5	357.5	401.3	379.6	350.2	310.5	269.2	241.8	230.7	224.2
49.5°	289.2	308.4	317.8	357.9	338.3	312.1	272.8	237.3	209.0	201.7	198.8
50°	254.0	270.4	280.6	318.3	297.0	274.5	240.9	207.8	179.6	176.3	175.1
50.5°	221.7	234.8	245.8	279.8	255.7	240.9	210.3	180.8	153.8	152.2	152.6
51°	191.0	202.5	213.5	245.0	221.3	208.6	182.9	155.9	131.3	131.3	132.1
51.5°	162.4	172.6	183.3	210.7	190.6	179.6	158.3	134.2	112.9	112.5	114.1
52°	135.8	146.4	155.0	180.4	161.6	151.8	135.4	113.7	96.5	95.7	97.4
52.5°	117.0	127.6	135.0	152.6	134.6	127.2	114.5	95.7	82.2	80.6	81.4
53°	98.2	108.8	114.9	132.9	111.3	105.1	95.3	80.2	70.0	67.5	67.5
53.5°	79.4	90.4	94.9	113.3	90.8	85.5	78.9	66.7	58.9	56.0	55.2
54°	61.0	71.6	74.9	93.7	73.2	69.1	64.6	54.8	49.1	49.5	48.7
54.5°	48.3	53.2	54.8	74.0	58.5	55.2	56.0	48.3	43.8	43.0	41.7
55°	38.5	41.7	43.0	54.4	50.7	48.3	47.5	41.7	38.5	36.0	34.8
55.5°	30.7	32.7	33.1	42.5	43.4	41.3	39.3	35.2	33.1	29.5	28.2
56°	25.8	26.6	26.2	32.7	35.6	34.4	31.1	29.0	27.8	22.9	21.3
56.5°	22.9	23.3	22.9	25.8	27.8	27.4	22.9	22.5	22.5	20.9	19.6
57°	21.3	21.3	20.9	22.1	20.5	20.5	20.9	20.9	20.9	19.6	18.4
57.5°	20.0	20.0	19.2	20.0	18.8	18.8	19.2	19.6	19.2	18.4	17.2
58°	18.4	18.4	18.0	18.4	17.6	17.6	18.0	18.4	18.0	17.2	16.0
58.5°	17.2	17.2	16.4	17.2	16.4	16.4	16.8	17.2	16.8	16.0	14.7
59°	16.0	16.0	15.5	16.0	15.1	15.1	15.5	16.0	15.5	14.7	13.9
59.5°	15.1	14.7	14.3	14.7	13.9	13.9	14.3	14.7	14.7	13.9	12.7
60°	13.9	13.9	13.5	13.9	13.1	13.1	13.5	13.5	13.5	12.7	11.9
60.5°	13.1	12.7	12.3	12.7	12.3	12.3	12.3	12.7	12.7	11.9	11.0
61°	11.9	11.9	11.5	11.9	11.0	11.5	11.5	11.9	11.9	11.0	10.2
61.5°	11.0	11.0	10.6	11.0	10.6	10.6	10.6	11.0	11.0	10.2	9.8
62°	10.2	10.2	9.8	10.2	9.8	9.8	10.2	10.2	10.2	9.8	9.0
62.5°	9.8	9.8	9.0	9.4	9.0	9.0	9.4	9.8	9.8	9.0	8.6
63°	9.0	9.0	8.6	9.0	8.6	8.6	8.6	9.0	9.0	8.6	7.8
63.5°	8.6	8.6	8.2	8.2	7.8	8.2	8.2	8.6	8.6	8.2	7.4
64°	8.2	7.8	7.4	7.8	7.4	7.4	7.8	8.2	8.2	7.8	7.0
64.5°	7.4	7.4	7.0	7.4	7.0	7.0	7.4	7.4	7.4	7.0	6.5
65°	7.0	7.0	6.5	7.0	6.5	6.5	7.0	7.0	7.0	6.5	6.1
65.5°	6.5	6.5	6.1	6.5	6.1	6.1	6.5	6.5	6.5	6.1	5.7
66°	6.1	6.1	5.7	6.1	5.7	5.7	6.1	6.1	6.1	5.7	5.3



TEST NUMBER: P776369

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRH-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	5.3	4.9	4.9	4.9	4.9	4.9	4.9	5.3	5.3	4.9	4.5
68°	4.9	4.9	4.5	4.5	4.5	4.5	4.5	4.9	4.9	4.5	4.5
68.5°	4.5	4.5	4.1	4.5	4.1	4.1	4.5	4.5	4.5	4.5	4.1
69°	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.5	4.5	4.1	3.7
69.5°	4.1	4.1	3.7	3.7	3.7	3.7	4.1	4.1	4.1	3.7	3.7
70°	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.3
70.5°	3.7	3.3	3.3	3.3	3.3	3.3	3.3	3.7	3.7	3.3	3.3
71°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.9
71.5°	3.3	2.9	2.9	2.9	2.9	2.9	2.9	3.3	3.3	2.9	2.9
72°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.5
72.5°	2.9	2.9	2.5	2.5	2.5	2.5	2.9	2.9	2.9	2.5	2.5
73°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
73.5°	2.5	2.5	2.5	2.5	2.0	2.5	2.5	2.5	2.5	2.5	2.0
74°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.0	2.0
74.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
75°	2.0	2.0	1.6	2.0	1.6	2.0	2.0	2.0	2.0	2.0	1.6
75.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.0	2.0	1.6	1.6
76°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
76.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.2
77°	1.6	1.2	1.2	1.6	1.2	1.2	1.6	1.6	1.6	1.2	1.2
77.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
78°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
78.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
79°	1.2	0.8	0.8	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8
79.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
80.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
81°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
81.5°	0.8	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4
82°	0.4	0.4	0.4	0.8	0.4	0.4	0.4	0.4	0.4	0.4	0.4
82.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
83°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
83.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
84°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
84.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.4
85°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.4	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: P776369
CATALOG NUMBER: HCDJBL3040CSD-HCD62TRH-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: P776369

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRH-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	4633.5	4633.5	4633.5	4633.5	4633.5	4633.5
0.5°	4623.7	4626.9	4626.9	4629.0	4632.2	4635.5
1°	4615.1	4620.0	4620.8	4624.5	4629.0	4634.7
1.5°	4604.0	4609.7	4611.8	4617.1	4624.5	4631.0
2°	4590.5	4598.7	4602.0	4608.9	4617.9	4626.9
2.5°	4575.4	4584.8	4588.9	4598.7	4610.2	4620.4
3°	4558.2	4569.3	4575.0	4586.0	4599.9	4612.2
3.5°	4539.0	4552.9	4559.0	4572.1	4587.7	4602.8
4°	4518.5	4532.4	4541.4	4555.8	4573.8	4590.9
4.5°	4495.6	4512.0	4521.4	4537.8	4558.2	4577.4
5°	4471.5	4488.7	4499.7	4517.7	4541.0	4562.3
5.5°	4444.5	4464.5	4476.0	4496.0	4522.2	4545.9
6°	4417.1	4438.8	4451.4	4472.7	4501.8	4526.7
6.5°	4387.2	4409.7	4424.9	4448.2	4478.8	4506.7
7°	4356.1	4379.9	4396.2	4421.6	4453.9	4483.3
7.5°	4323.4	4347.5	4365.1	4392.1	4426.9	4458.4
8°	4287.0	4313.6	4332.0	4361.4	4397.9	4431.8
8.5°	4249.0	4277.6	4298.0	4327.9	4367.6	4403.6
9°	4209.3	4238.3	4260.0	4292.7	4334.0	4372.9
9.5°	4166.7	4198.2	4220.7	4255.9	4299.7	4340.6
10°	4121.3	4153.2	4177.0	4216.6	4264.1	4306.6
10.5°	4072.2	4107.8	4133.2	4174.5	4224.8	4269.4
11°	4021.5	4060.4	4086.6	4128.7	4183.1	4231.0
11.5°	3971.2	4008.4	4039.5	4082.1	4138.1	4189.2
12°	3918.4	3957.3	3986.3	4034.6	4091.5	4144.2
12.5°	3864.4	3903.3	3934.0	3983.9	4043.6	4098.0
13°	3809.6	3849.3	3882.8	3933.2	3994.9	4050.1
13.5°	3753.6	3793.7	3828.8	3878.7	3942.6	4000.7
14°	3697.1	3738.8	3772.0	3823.9	3890.2	3949.1
14.5°	3638.6	3682.0	3715.5	3770.8	3835.8	3896.7
15°	3582.6	3623.5	3658.7	3713.9	3781.4	3842.3
15.5°	3523.7	3565.4	3602.2	3657.4	3725.8	3787.1
16°	3464.4	3506.9	3543.7	3598.1	3669.3	3731.9
16.5°	3405.9	3448.8	3486.0	3542.5	3612.9	3676.7
17°	3346.1	3390.3	3427.1	3484.8	3556.8	3621.0
17.5°	3287.7	3330.6	3368.2	3426.3	3499.1	3563.0
18°	3225.5	3270.5	3307.7	3366.2	3441.1	3505.7
18.5°	3167.8	3209.9	3248.4	3306.9	3383.0	3448.4
19°	3110.5	3151.8	3189.1	3250.8	3324.5	3390.3
19.5°	3053.3	3095.0	3132.6	3194.4	3268.0	3333.5
20°	2996.0	3037.7	3077.4	3136.7	3210.7	3275.4
20.5°	2939.1	2982.1	3021.4	3080.3	3154.7	3217.7
21°	2888.8	2924.4	2964.1	3023.4	3097.0	3161.3

TEST NUMBER: P776369

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRH-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2727.2	2762.0	2802.1	2862.2	2933.0	2995.6
23°	2674.5	2709.2	2748.1	2807.4	2879.0	2941.6
23.5°	2622.5	2656.9	2697.0	2756.3	2826.6	2888.8
24°	2572.6	2606.1	2645.8	2703.1	2774.7	2834.8
24.5°	2520.7	2555.4	2594.3	2653.2	2721.9	2783.7
25°	2472.0	2504.3	2544.0	2600.4	2671.2	2731.7
25.5°	2421.7	2455.6	2495.3	2551.7	2620.9	2680.6
26°	2373.0	2406.9	2446.6	2502.7	2571.4	2630.3
26.5°	2325.5	2359.5	2398.8	2454.4	2521.9	2581.2
27°	2277.7	2311.6	2350.5	2406.5	2473.2	2531.3
27.5°	2230.6	2265.4	2303.0	2358.7	2424.9	2482.2
28°	2185.6	2218.8	2256.8	2310.4	2377.5	2434.3
28.5°	2141.9	2173.8	2212.2	2265.4	2330.8	2386.5
29°	2099.3	2130.8	2168.9	2222.0	2285.9	2341.1
29.5°	2055.5	2088.3	2124.7	2177.9	2240.9	2296.5
30°	2013.8	2047.0	2083.4	2135.3	2198.3	2251.9
30.5°	1973.7	2006.1	2042.0	2092.8	2155.8	2208.5
31°	1934.5	1966.0	2002.8	2053.1	2114.0	2166.4
31.5°	1894.4	1926.3	1963.5	2013.4	2072.3	2123.9
32°	1853.9	1887.0	1923.0	1973.3	2032.6	2084.2
32.5°	1809.7	1847.7	1883.7	1934.5	1993.8	2044.5
33°	1760.2	1801.5	1839.6	1890.7	1954.5	2004.8
33.5°	1706.2	1750.4	1790.5	1842.8	1911.1	1963.1
34°	1647.7	1696.4	1737.7	1792.1	1863.7	1921.8
34.5°	1589.6	1638.3	1680.0	1742.6	1815.4	1875.6
35°	1532.8	1579.8	1621.5	1688.6	1764.7	1830.6
35.5°	1475.5	1518.0	1563.0	1635.8	1712.3	1780.7
36°	1417.0	1450.5	1506.2	1580.6	1657.9	1727.5
36.5°	1356.0	1393.3	1470.2	1524.2	1602.7	1669.0
37°	1295.5	1336.8	1410.0	1468.1	1546.3	1605.6
37.5°	1236.2	1280.4	1349.5	1409.2	1486.9	1539.7
38°	1174.4	1223.5	1289.0	1350.3	1424.8	1475.9
38.5°	1114.7	1168.3	1228.4	1291.4	1362.6	1415.4
39°	1057.4	1111.8	1171.6	1232.5	1300.4	1354.8
39.5°	1001.4	1055.4	1112.2	1173.6	1238.2	1293.9
40°	944.9	998.9	1053.3	1115.5	1175.7	1233.3
40.5°	890.9	943.7	995.3	1058.2	1113.1	1172.8
41°	836.9	889.3	938.0	1001.0	1050.5	1115.1
41.5°	782.1	834.9	883.2	942.1	987.9	1055.8
42°	728.5	785.0	830.0	886.9	929.8	999.3
42.5°	679.5	733.0	779.3	829.2	871.7	941.3
43°	629.1	686.8	728.5	772.7	818.1	885.2
43.5°	582.1	638.1	677.4	715.0	762.9	828.8



TEST NUMBER: P776369

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRH-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	453.2	499.5	529.7	557.1	612.8	674.1
45.5°	414.8	456.1	483.1	509.7	564.9	624.2
46°	380.4	413.2	438.1	463.9	519.9	577.6
46.5°	346.1	371.8	394.3	420.9	476.2	531.0
47°	311.7	333.8	353.4	380.4	434.0	486.0
47.5°	277.3	297.8	314.6	341.6	393.1	442.2
48°	248.3	263.0	278.2	305.2	354.2	401.3
48.5°	220.9	231.1	243.8	271.2	317.0	362.0
49°	194.3	202.1	211.5	240.1	281.4	324.8
49.5°	170.6	175.1	182.0	211.5	248.7	289.2
50°	148.9	149.7	155.9	184.1	217.6	254.0
50.5°	128.4	133.4	138.7	159.5	189.4	221.7
51°	110.0	116.6	121.5	137.0	163.6	191.0
51.5°	92.9	100.2	104.3	119.9	139.5	162.4
52°	78.1	83.9	87.1	103.1	121.5	135.8
52.5°	64.6	67.1	70.0	85.9	103.5	117.0
53°	52.8	56.0	58.9	69.1	85.9	98.2
53.5°	46.2	45.8	48.7	56.9	68.3	79.4
54°	40.1	37.6	40.1	45.8	54.8	61.0
54.5°	33.5	30.7	32.7	36.8	43.8	48.3
55°	27.0	25.4	26.6	29.5	34.8	38.5
55.5°	20.5	21.7	22.5	24.5	27.8	30.7
56°	18.8	19.6	20.5	21.7	24.1	25.8
56.5°	17.6	18.4	18.8	20.0	21.7	22.9
57°	16.4	17.2	17.6	18.8	20.0	21.3
57.5°	15.5	16.0	16.4	17.2	18.8	20.0
58°	14.3	15.1	15.5	16.0	17.6	18.4
58.5°	13.1	13.9	14.3	15.1	16.4	17.2
59°	12.3	13.1	13.5	13.9	15.1	16.0
59.5°	11.5	11.9	12.3	13.1	14.3	15.1
60°	10.6	11.0	11.5	11.9	13.1	13.9
60.5°	9.8	10.2	10.6	11.0	12.3	13.1
61°	9.4	9.8	9.8	10.2	11.0	11.9
61.5°	8.6	9.0	9.4	9.8	10.6	11.0
62°	8.2	8.6	8.6	9.0	9.8	10.2
62.5°	7.8	7.8	8.2	8.6	9.0	9.8
63°	7.4	7.4	7.8	7.8	8.6	9.0
63.5°	7.0	7.0	7.0	7.4	8.2	8.6
64°	6.5	6.5	6.5	7.0	7.8	8.2
64.5°	6.1	6.1	6.1	6.5	7.0	7.4
65°	5.7	5.7	5.7	6.1	6.5	7.0
65.5°	5.3	5.3	5.7	5.7	6.1	6.5
66°	4.9	5.3	5.3	5.3	5.7	6.1



TEST NUMBER: P776369

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRH-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	4.1	4.1	4.5	4.5	4.9	5.3
68°	4.1	4.1	4.1	4.1	4.5	4.9
68.5°	3.7	3.7	3.7	4.1	4.5	4.5
69°	3.3	3.7	3.7	3.7	4.1	4.1
69.5°	3.3	3.3	3.3	3.7	3.7	4.1
70°	2.9	3.3	3.3	3.3	3.7	3.7
70.5°	2.9	2.9	2.9	3.3	3.3	3.7
71°	2.9	2.9	2.9	2.9	3.3	3.3
71.5°	2.5	2.5	2.5	2.9	2.9	3.3
72°	2.5	2.5	2.5	2.5	2.9	2.9
72.5°	2.0	2.5	2.5	2.5	2.5	2.9
73°	2.0	2.0	2.0	2.5	2.5	2.5
73.5°	2.0	2.0	2.0	2.0	2.5	2.5
74°	2.0	2.0	2.0	2.0	2.0	2.0
74.5°	1.6	1.6	1.6	2.0	2.0	2.0
75°	1.6	1.6	1.6	1.6	1.6	2.0
75.5°	1.6	1.6	1.6	1.6	1.6	1.6
76°	1.2	1.6	1.6	1.6	1.6	1.6
76.5°	1.2	1.2	1.2	1.2	1.6	1.6
77°	1.2	1.2	1.2	1.2	1.2	1.6
77.5°	1.2	1.2	1.2	1.2	1.2	1.2
78°	1.2	1.2	1.2	1.2	1.2	1.2
78.5°	0.8	0.8	0.8	0.8	1.2	1.2
79°	0.8	0.8	0.8	0.8	0.8	1.2
79.5°	0.8	0.8	0.8	0.8	0.8	0.8
80°	0.8	0.8	0.8	0.8	0.8	0.8
80.5°	0.8	0.8	0.8	0.8	0.8	0.8
81°	0.4	0.8	0.8	0.8	0.8	0.8
81.5°	0.4	0.4	0.4	0.4	0.4	0.8
82°	0.4	0.4	0.4	0.4	0.4	0.4
82.5°	0.4	0.4	0.4	0.4	0.4	0.4
83°	0.4	0.4	0.4	0.4	0.4	0.4
83.5°	0.4	0.4	0.4	0.4	0.4	0.4
84°	0.4	0.4	0.4	0.4	0.4	0.4
84.5°	0.4	0.4	0.4	0.4	0.0	0.4
85°	0.0	0.0	0.4	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: P776369

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRH-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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Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





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

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21.5°	3106.0	3149.8	3171.1	3223.8	3168.6	3132.2	3088.4	3034.8	2981.3	2934.6	2900.7
22°	3049.6	3093.8	3113.0	3165.3	3114.2	3077.8	3034.4	2980.4	2926.9	2878.6	2845.5



44°	776.4	828.8	858.2	913.4	858.6	805.9	754.3	714.6	673.3	625.1	582.5
44.5°	725.7	775.6	800.5	856.2	805.0	753.9	703.2	660.6	623.4	576.8	537.9



66.5°	5.7	5.7	5.3	5.7	5.3	5.3	5.7	5.7	5.7	5.7	5.3
67°	5.3	5.3	5.3	5.3	4.9	5.3	5.3	5.3	5.7	5.3	4.9



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°	2835.2	2870.0	2910.5	2969.8	3042.2	3106.0
22°	2780.4	2815.2	2854.5	2914.2	2987.8	3049.6



44°	536.3	590.7	627.1	661.0	710.5	776.4
44.5°	494.1	544.1	578.0	606.6	660.6	725.7



66.5°	4.5	4.9	4.9	5.3	5.7	5.7
67°	4.5	4.5	4.5	4.9	5.3	5.3

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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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(END OF REPORT)