

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P242025

Luminaire Tested: **PRS420D010-S4M12-41SWWMW-3000K**

Issue Date: 03/03/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242025  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1802-584-63)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 03/03/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: PRS420D010-S4M12-41SWWMW-3000K  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, WITH 4" WALL WASH DISTRIBUTION, WW TRIM MATTE WHITE  
Light Source: ARRAYS OF HIGH LUMEN LEDS 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1228.2 lumens  
Efficiency: N/A  
Efficacy: 61.4 lumens/watt  
Spacing Criteria (0/90/45): 1 / 0.97 / 1.07  
Luminous Opening: Rectangular (W 0.38' x L: 0.38' x H: 0')  
CIE Type: Direct

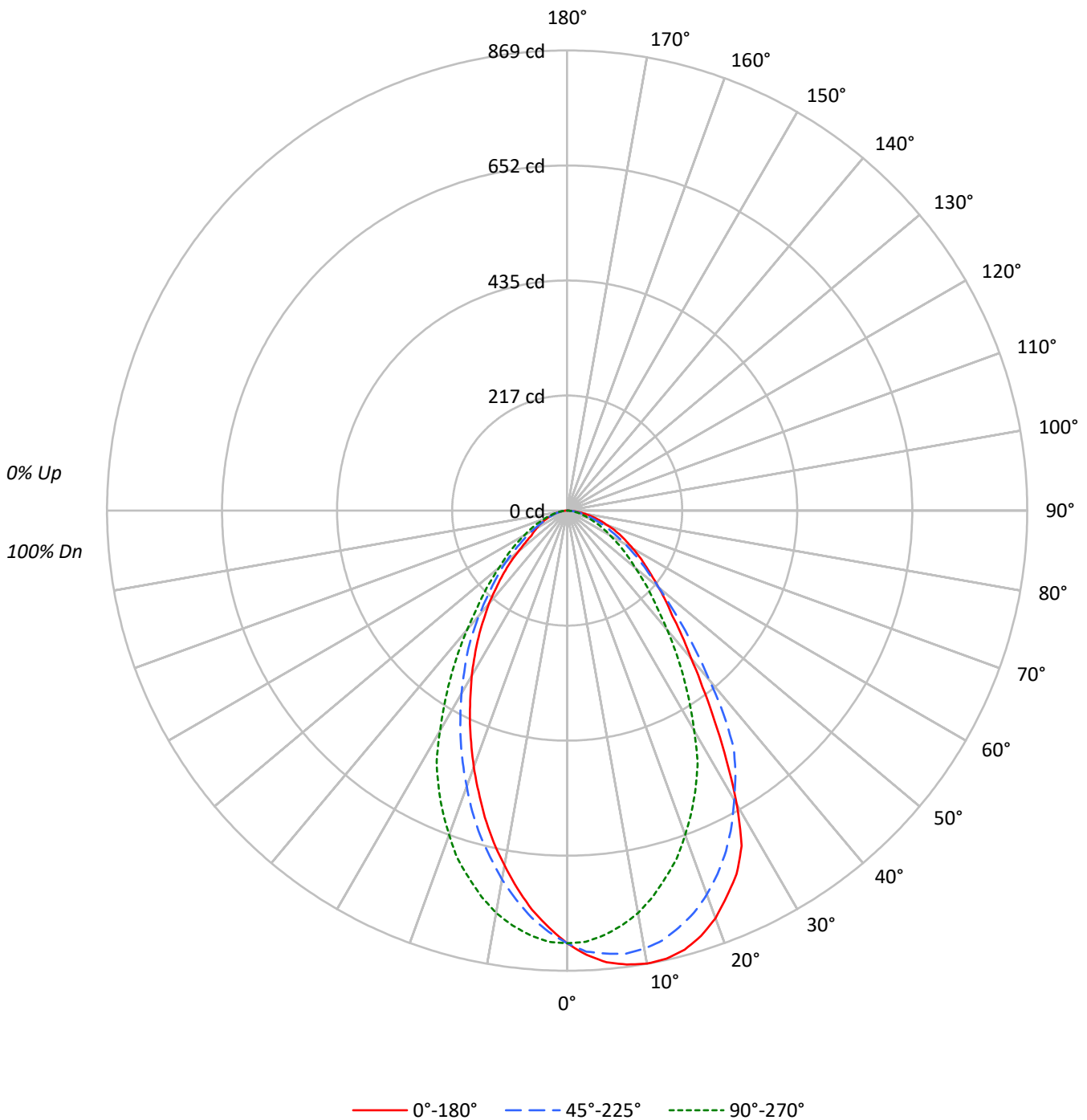
Input Watts (W): 20  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					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	111	107	104	101	109	105	102	99	101	98	96	97	95	93	94	92	91	89					89			
2	103	97	91	86	101	95	90	85	91	87	84	88	85	82	85	82	80	78					78			
3	96	87	81	75	94	86	80	75	83	78	73	80	76	72	78	74	71	69					69			
4	89	79	72	66	87	78	71	66	76	70	65	73	68	64	71	67	63	62					62			
5	83	72	65	59	81	71	64	59	69	63	58	67	62	58	66	61	57	55					55			
6	78	66	59	53	76	65	58	53	64	57	53	62	57	52	61	56	52	50					50			
7	73	61	54	48	71	60	53	48	59	53	48	58	52	48	56	51	47	45					45			
8	68	57	49	44	67	56	49	44	55	48	44	54	48	44	53	47	43	42					42			
9	64	53	45	40	63	52	45	40	51	45	40	50	44	40	49	44	40	38					38			
10	61	49	42	37	60	49	42	37	48	41	37	47	41	37	46	41	37	35					35			

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

	0°	90°	180°
0°	62544	62544	62544
5°	65802	61830	58172
10°	67527	59972	52899
15°	68031	56881	47538
20°	66729	53077	41958
25°	63942	48571	36688
30°	56681	42416	31818
35°	45422	35760	27257
40°	36381	29357	22942
45°	30450	24183	18586
50°	26853	19958	14290
55°	24021	17122	11036
60°	21845	14252	10134
65°	20231	12370	9364
70°	18060	10183	8325
75°	16532	8576	7334
80°	14590	7273	6392
85°	9046	5445	5445



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.9	6.2
10°-20°	202.9	16.5
20°-30°	269.4	21.9
30°-40°	253.9	20.7
40°-50°	185.8	15.1
50°-60°	122.0	9.9
60°-70°	73.5	6.0
70°-80°	36.2	2.9
80°-90°	8.6	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°	548.2	44.6
0°-40°	802.1	65.3
0°-60°	1109.9	90.4
0°-90°	1228.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1228.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	817	817	817	817	817	
5°	856	840	805	772	757	82
15°	858	815	718	635	600	241
25°	757	710	575	476	434	344
35°	486	548	383	329	292	306
45°	281	308	223	199	172	221
55°	180	170	128	108	83	162
65°	112	91	68	50	52	110
75°	56	41	29	25	25	59
85°	10	8	6	6	6	14
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	817.1	817.1	817.1	817.1	817.1	817.1	817.1	817.1	817.1	817.1	817.1
2.5°	839.9	839.9	839.9	839.9	837.8	837.8	837.8	835.7	835.7	833.7	833.7
5°	856.4	856.4	854.4	854.4	852.3	852.3	850.2	848.2	846.1	844.0	839.9
7.5°	864.7	864.7	862.6	862.6	860.6	860.6	858.5	856.4	852.3	848.2	844.0
10°	868.8	866.8	866.8	864.7	862.6	860.6	858.5	856.4	850.2	846.1	839.9
12.5°	866.8	864.7	864.7	860.6	858.5	856.4	854.4	850.2	844.0	837.8	831.6
15°	858.5	856.4	854.4	852.3	848.2	846.1	844.0	837.8	831.6	823.3	815.1
17.5°	842.0	839.9	839.9	835.7	831.6	829.5	827.5	821.3	813.0	804.7	796.4
20°	819.2	817.1	815.1	813.0	808.9	806.8	804.7	798.5	790.2	782.0	771.6
22.5°	788.2	786.1	786.1	784.0	779.9	777.8	775.8	769.6	763.3	753.0	742.7
25°	757.1	755.1	753.0	750.9	746.8	742.7	740.6	734.4	728.2	722.0	709.6
27.5°	713.7	715.8	715.8	713.7	711.6	709.6	707.5	699.2	690.9	682.7	672.3
30°	641.3	637.2	641.3	647.5	653.7	655.8	662.0	662.0	653.7	643.4	630.9
32.5°	560.6	562.7	564.8	573.0	581.3	583.4	587.5	599.9	610.3	604.1	591.6
35°	486.1	488.2	492.3	498.6	504.8	515.1	519.2	529.6	539.9	552.3	548.2
37.5°	419.9	422.0	426.1	430.3	440.6	444.8	453.0	461.3	477.9	488.2	486.1
40°	364.1	366.2	368.2	372.4	384.8	386.8	391.0	403.4	413.7	422.0	417.9
42.5°	320.6	318.6	322.7	326.9	333.1	335.1	339.3	347.5	355.8	360.0	360.0
45°	281.3	283.4	285.5	289.6	291.7	295.8	297.9	304.1	306.2	308.2	308.2
47.5°	252.4	252.4	254.4	256.5	258.6	260.7	262.7	264.8	264.8	264.8	262.7
50°	225.5	225.5	227.6	229.6	229.6	231.7	231.7	231.7	229.6	227.6	225.5
52.5°	200.7	200.7	202.7	204.8	204.8	204.8	204.8	202.7	200.7	198.6	194.5
55°	180.0	180.0	182.0	182.0	182.0	182.0	182.0	177.9	173.8	171.7	169.6
57.5°	161.4	161.4	161.4	161.4	161.4	161.4	159.3	155.2	153.1	148.9	146.9
60°	142.7	142.7	142.7	142.7	142.7	140.7	138.6	136.5	132.4	128.3	126.2
62.5°	126.2	126.2	126.2	126.2	124.1	122.1	122.1	117.9	115.8	111.7	107.6
65°	111.7	111.7	109.6	109.6	107.6	105.5	105.5	101.4	99.3	95.2	91.0
67.5°	97.2	95.2	95.2	95.2	93.1	91.0	89.0	86.9	84.8	80.7	76.5
70°	80.7	80.7	82.7	80.7	78.6	76.5	76.5	72.4	70.3	68.3	64.1
72.5°	68.3	68.3	68.3	66.2	66.2	64.1	62.1	60.0	57.9	55.9	51.7
75°	55.9	55.9	55.9	53.8	51.7	51.7	51.7	47.6	47.6	43.4	41.4
77.5°	43.4	43.4	43.4	41.4	41.4	41.4	39.3	37.2	35.2	35.2	33.1
80°	33.1	33.1	31.0	31.0	29.0	29.0	29.0	26.9	26.9	24.8	22.8
82.5°	22.8	20.7	20.7	20.7	20.7	20.7	18.6	18.6	16.5	16.5	14.5
85°	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	8.3	8.3	8.3
87.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
90°	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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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	817.1	817.1	817.1	817.1	817.1	817.1	817.1	817.1	817.1	817.1	817.1
2.5°	829.5	829.5	827.5	825.4	823.3	823.3	821.3	819.2	817.1	815.1	810.9
5°	837.8	833.7	829.5	825.4	825.4	823.3	817.1	813.0	808.9	804.7	800.6
7.5°	837.8	831.6	827.5	821.3	819.2	815.1	808.9	802.7	796.4	790.2	784.0
10°	833.7	825.4	819.2	810.9	806.8	802.7	794.4	786.1	777.8	771.6	761.3
12.5°	821.3	813.0	804.7	794.4	790.2	786.1	775.8	765.4	757.1	746.8	738.5
15°	804.7	796.4	786.1	775.8	769.6	765.4	753.0	740.6	728.2	717.8	707.5
17.5°	786.1	773.7	763.3	750.9	744.7	736.5	724.0	711.6	699.2	688.9	676.5
20°	759.2	748.9	734.4	719.9	713.7	705.4	693.0	678.5	666.1	651.6	639.2
22.5°	732.3	717.8	703.4	686.8	680.6	672.3	657.8	641.3	628.9	614.4	599.9
25°	697.1	682.7	668.2	653.7	643.4	637.2	622.7	606.1	591.6	575.1	560.6
27.5°	659.9	645.4	630.9	614.4	606.1	597.9	579.2	562.7	546.1	533.7	517.2
30°	618.5	606.1	589.6	566.8	556.5	548.2	527.5	508.9	492.3	479.9	469.6
32.5°	577.2	558.5	535.8	513.0	502.7	492.3	471.7	455.1	442.7	430.3	417.9
35°	523.4	502.7	482.0	461.3	451.0	440.6	424.1	407.5	393.1	382.7	372.4
37.5°	473.7	451.0	428.2	409.6	399.3	391.0	372.4	360.0	347.5	337.2	326.9
40°	413.7	401.3	376.5	360.0	349.6	341.3	324.8	312.4	302.0	293.8	285.5
42.5°	355.8	349.6	328.9	312.4	304.1	297.9	283.4	273.1	262.7	254.4	250.3
45°	304.1	295.8	287.5	271.0	264.8	258.6	246.2	235.8	227.6	223.4	217.2
47.5°	260.7	254.4	246.2	233.8	227.6	223.4	213.1	204.8	198.6	194.5	190.3
50°	221.3	217.2	211.0	202.7	196.5	192.4	184.1	177.9	171.7	167.6	165.5
52.5°	190.3	186.2	180.0	173.8	169.6	165.5	159.3	153.1	151.0	146.9	142.7
55°	163.4	159.3	155.2	148.9	146.9	144.8	138.6	134.5	130.3	128.3	126.2
57.5°	142.7	138.6	132.4	128.3	126.2	124.1	120.0	115.8	111.7	109.6	107.6
60°	122.1	117.9	113.8	109.6	107.6	105.5	103.4	99.3	95.2	93.1	93.1
62.5°	105.5	101.4	97.2	93.1	93.1	91.0	86.9	84.8	82.7	80.7	78.6
65°	89.0	84.8	82.7	78.6	76.5	76.5	74.5	70.3	68.3	68.3	66.2
67.5°	74.5	72.4	68.3	66.2	64.1	64.1	60.0	60.0	57.9	55.9	53.8
70°	62.1	57.9	55.9	53.8	53.8	51.7	49.6	49.6	47.6	45.5	43.4
72.5°	49.6	47.6	45.5	43.4	43.4	41.4	41.4	39.3	37.2	37.2	35.2
75°	39.3	37.2	37.2	33.1	33.1	33.1	31.0	31.0	29.0	29.0	26.9
77.5°	31.0	29.0	26.9	26.9	24.8	24.8	24.8	22.8	22.8	22.8	20.7
80°	20.7	20.7	18.6	18.6	18.6	18.6	16.5	16.5	16.5	16.5	14.5
82.5°	14.5	12.4	12.4	12.4	12.4	12.4	10.3	10.3	10.3	10.3	10.3
85°	8.3	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
87.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
90°	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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**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	817.1	817.1	817.1	817.1	817.1	817.1	817.1	817.1	817.1	817.1	817.1
2.5°	808.9	806.8	804.7	804.7	802.7	800.6	800.6	798.5	796.4	794.4	792.3
5°	796.4	792.3	788.2	786.1	784.0	782.0	777.8	773.7	771.6	767.5	765.4
7.5°	777.8	771.6	767.5	763.3	761.3	755.1	750.9	746.8	740.6	738.5	734.4
10°	755.1	746.8	738.5	736.5	732.3	726.1	719.9	711.6	707.5	703.4	699.2
12.5°	728.2	719.9	709.6	705.4	701.3	693.0	684.7	678.5	670.3	666.1	659.9
15°	697.1	686.8	676.5	672.3	668.2	657.8	649.6	641.3	635.1	626.8	620.6
17.5°	664.0	651.6	639.2	635.1	630.9	620.6	612.3	602.0	595.8	587.5	581.3
20°	626.8	614.4	602.0	599.9	591.6	581.3	571.0	562.7	554.4	548.2	539.9
22.5°	587.5	575.1	564.8	558.5	552.3	542.0	531.7	523.4	515.1	504.8	498.6
25°	550.3	535.8	523.4	521.3	513.0	504.8	494.4	484.1	475.8	467.5	461.3
27.5°	506.8	496.5	484.1	477.9	473.7	463.4	455.1	444.8	436.5	428.2	422.0
30°	457.2	446.8	438.6	434.4	430.3	424.1	413.7	407.5	399.3	391.0	384.8
32.5°	409.6	403.4	395.1	391.0	388.9	380.6	376.5	370.3	362.0	355.8	349.6
35°	362.0	357.9	349.6	349.6	345.5	341.3	337.2	333.1	328.9	322.7	316.5
37.5°	320.6	316.5	310.3	306.2	306.2	302.0	300.0	295.8	293.8	289.6	285.5
40°	281.3	275.1	271.0	268.9	266.9	264.8	260.7	258.6	258.6	256.5	252.4
42.5°	242.0	240.0	235.8	233.8	235.8	231.7	231.7	229.6	225.5	223.4	221.3
45°	213.1	208.9	208.9	206.9	206.9	204.8	202.7	200.7	198.6	194.5	194.5
47.5°	186.2	184.1	182.0	182.0	180.0	180.0	177.9	175.8	173.8	171.7	167.6
50°	163.4	161.4	159.3	159.3	157.2	157.2	155.2	153.1	151.0	146.9	142.7
52.5°	142.7	140.7	138.6	138.6	136.5	136.5	134.5	130.3	128.3	126.2	122.1
55°	124.1	122.1	120.0	120.0	117.9	117.9	115.8	111.7	107.6	105.5	101.4
57.5°	105.5	105.5	103.4	103.4	101.4	99.3	97.2	93.1	91.0	89.0	84.8
60°	91.0	89.0	89.0	86.9	86.9	84.8	80.7	78.6	74.5	72.4	68.3
62.5°	76.5	76.5	74.5	72.4	72.4	68.3	66.2	64.1	62.1	57.9	60.0
65°	64.1	62.1	62.1	60.0	60.0	55.9	53.8	51.7	49.6	49.6	51.7
67.5°	53.8	51.7	49.6	49.6	47.6	45.5	43.4	43.4	43.4	43.4	43.4
70°	43.4	41.4	39.3	39.3	39.3	37.2	35.2	35.2	35.2	37.2	37.2
72.5°	35.2	33.1	31.0	31.0	29.0	29.0	29.0	29.0	29.0	31.0	31.0
75°	26.9	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8
77.5°	20.7	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6
80°	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
82.5°	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3
85°	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
87.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
90°	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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CATALOG NUMBER: PRS420D010-S4M12-41SWWMW-3000K

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	817.1	817.1	817.1	817.1	817.1	817.1	817.1	817.1
2.5°	792.3	792.3	792.3	790.2	790.2	790.2	790.2	788.2
5°	763.3	763.3	761.3	761.3	759.2	759.2	759.2	757.1
7.5°	730.2	728.2	728.2	726.1	724.0	722.0	722.0	719.9
10°	695.1	690.9	686.8	688.9	684.7	684.7	680.6	680.6
12.5°	655.8	651.6	651.6	647.5	643.4	643.4	641.3	641.3
15°	614.4	610.3	608.2	606.1	604.1	602.0	602.0	599.9
17.5°	573.0	571.0	568.9	566.8	562.7	560.6	558.5	556.5
20°	533.7	527.5	525.4	525.4	519.2	519.2	515.1	515.1
22.5°	492.3	486.1	486.1	484.1	479.9	475.8	475.8	473.7
25°	453.0	448.9	444.8	442.7	440.6	436.5	436.5	434.4
27.5°	413.7	409.6	407.5	405.5	401.3	399.3	397.2	395.1
30°	378.6	372.4	370.3	368.2	364.1	362.0	360.0	360.0
32.5°	343.4	337.2	337.2	333.1	331.0	326.9	324.8	324.8
35°	310.3	306.2	302.0	300.0	295.8	295.8	291.7	291.7
37.5°	277.2	273.1	273.1	268.9	264.8	262.7	260.7	258.6
40°	248.2	242.0	242.0	237.9	233.8	231.7	229.6	229.6
42.5°	219.3	213.1	211.0	208.9	204.8	200.7	200.7	198.6
45°	190.3	186.2	184.1	182.0	177.9	173.8	173.8	171.7
47.5°	163.4	161.4	157.2	155.2	153.1	148.9	146.9	146.9
50°	140.7	138.6	134.5	132.4	128.3	124.1	122.1	120.0
52.5°	117.9	115.8	113.8	111.7	107.6	103.4	101.4	99.3
55°	99.3	97.2	93.1	93.1	89.0	86.9	84.8	82.7
57.5°	80.7	78.6	76.5	76.5	74.5	74.5	74.5	74.5
60°	66.2	68.3	68.3	68.3	68.3	68.3	68.3	66.2
62.5°	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
65°	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7
67.5°	43.4	43.4	45.5	43.4	43.4	43.4	43.4	43.4
70°	37.2	37.2	37.2	37.2	37.2	37.2	37.2	37.2
72.5°	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0
75°	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8
77.5°	20.7	20.7	18.6	18.6	20.7	20.7	18.6	20.7
80°	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
82.5°	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3
85°	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
87.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)