

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: P345400

Luminaire Tested: **PR4FS12D010 PR4M12WW8FSMW 1500Lm3000K**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P345400
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1908-453-7)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: PR4FS12D010 PR4M12WW8FSMW 1500Lm3000K
Description: PR4 WALLWASH ASSEMBLY WITH, MATTE WHITE FINISH
Light Source: ARRAY OF HIGH LUMEN LEDs 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1047.2 lumens
Efficiency: N/A
Efficacy: 75.3 lumens/watt
Spacing Criteria (0/90/45): 0.95 / 1.12 / 1.11
Luminous Opening: Circular (Dia: 0.4' x H: 0')
CIE Type: Direct

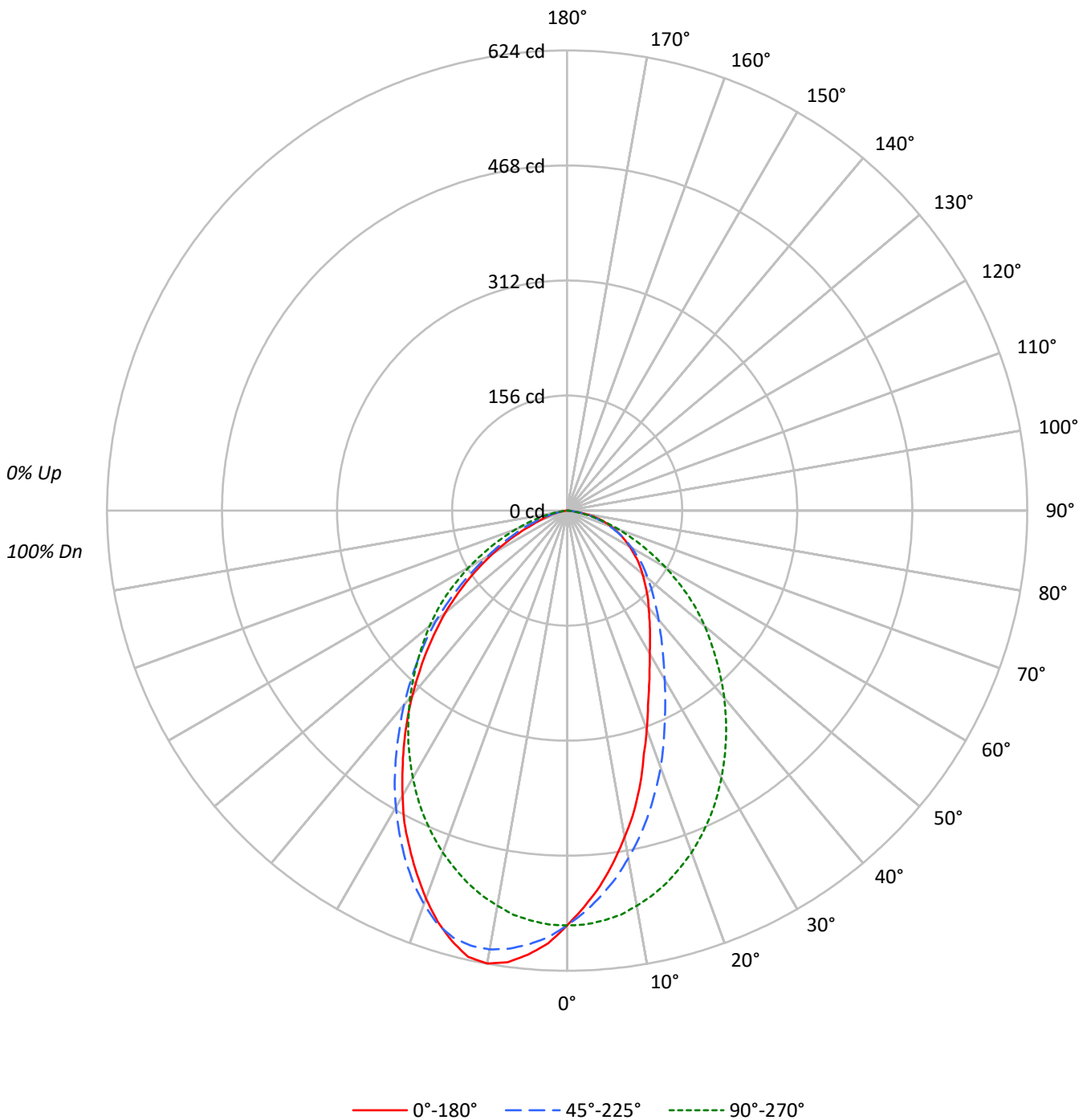
Input Watts (W): 13.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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CATALOG NUMBER: PR4FS12D010 PR4M12WW8FSMW 1500lm3000K

Luminous Intensity Polar Plot





TEST NUMBER: P345400

CATALOG NUMBER: PR4F512D010 PR4M12WW8FSMW 1500Lm3000K

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	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89					87				
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77					75				
3	94	85	77	72	92	83	76	71	80	75	70	78	73	69	75	71	68					66				
4	87	76	68	62	85	75	67	62	72	66	61	70	65	60	68	63	59					57				
5	80	69	61	55	78	68	60	54	66	59	54	64	58	53	62	57	53					51				
6	75	63	54	49	73	62	54	48	60	53	48	58	52	48	57	51	47					45				
7	70	57	49	44	68	57	49	43	55	48	43	54	47	43	52	47	43					41				
8	65	53	45	39	64	52	45	39	51	44	39	50	43	39	48	43	39					37				
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35					34				
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	36	32					31				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	49210	49210	49210
5°	44894	49012	53060
10°	39924	48317	55396
15°	34710	47306	54722
20°	29377	45927	52099
25°	25354	44241	48767
30°	22624	42249	45097
35°	20897	40128	41164
40°	19628	37817	37224
45°	18778	35354	33325
50°	18126	33121	29366
55°	17705	30423	25086
60°	17179	26958	20310
65°	16785	22953	14943
70°	16368	18848	10281
75°	15580	14329	7807
80°	10880	8261	4483
85°	4516	3011	1505



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.7	5.0
10°-20°	142.9	13.6
20°-30°	193.1	18.4
30°-40°	203.2	19.4
40°-50°	183.1	17.5
50°-60°	141.4	13.5
60°-70°	87.0	8.3
70°-80°	38.3	3.7
80°-90°	5.5	0.5
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°	388.7	37.1
0°-40°	591.9	56.5
0°-60°	916.4	87.5
0°-90°	1047.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1047.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	563	563	563	563	563	
5°	511	525	558	590	604	47
15°	383	426	522	599	604	106
25°	263	313	458	520	505	122
35°	196	225	376	404	386	123
45°	152	166	286	286	269	117
55°	116	122	200	176	164	103
65°	81	81	111	84	72	80
75°	46	41	42	28	23	47
85°	4	4	3	2	2	8
90°	0	0	0	0	0	



TEST NUMBER: P345400

CATALOG NUMBER: PR4FS12D010 PR4M12WW8FSMW 1500Lm3000K

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	562.6	562.6	562.6	562.6	562.6	562.6	562.6	562.6	562.6	562.6	562.6
2.5°	537.3	538.1	538.1	538.1	538.8	539.6	539.6	541.1	541.8	543.3	544.8
5°	511.3	510.5	510.5	512.0	513.5	514.3	514.3	517.2	519.5	521.7	524.7
7.5°	480.8	480.0	482.3	483.0	484.5	486.7	488.2	491.2	493.4	498.6	503.1
10°	449.5	449.5	451.0	453.2	455.5	457.7	459.2	462.9	467.4	472.6	478.5
12.5°	418.3	416.0	418.3	421.2	423.5	425.7	427.9	432.4	439.1	445.8	453.2
15°	383.3	382.5	384.0	387.0	392.2	393.7	395.9	402.6	409.3	418.3	426.4
17.5°	346.1	348.3	349.0	353.5	358.7	361.0	363.2	369.9	379.6	388.5	398.2
20°	315.6	314.1	317.0	320.0	324.5	328.2	331.2	338.6	349.0	358.7	370.6
22.5°	286.5	285.8	288.0	291.7	295.5	298.4	301.4	308.9	317.0	328.2	341.6
25°	262.7	262.0	264.2	266.4	270.9	273.1	275.4	282.8	291.7	300.7	313.3
27.5°	241.9	241.9	243.4	244.9	248.6	250.8	253.8	259.7	267.2	276.1	288.0
30°	224.0	224.0	225.5	227.0	230.7	232.2	234.4	238.9	244.9	254.5	264.2
32.5°	209.1	209.1	209.9	212.1	213.6	215.1	217.3	221.0	227.0	234.4	243.4
35°	195.7	195.7	196.5	198.0	200.2	200.9	202.4	206.2	210.6	216.6	224.8
37.5°	183.1	183.8	183.8	185.3	186.8	187.5	189.0	192.0	195.7	200.9	207.6
40°	171.9	172.7	172.7	174.1	175.6	176.4	177.1	178.6	183.1	186.8	192.8
42.5°	162.2	162.2	162.2	163.0	164.5	165.2	166.0	168.2	170.4	174.1	178.6
45°	151.8	151.8	152.6	153.3	154.8	154.8	155.5	157.8	159.3	162.2	166.0
47.5°	142.1	142.1	142.9	142.9	144.4	144.4	145.1	146.6	148.1	151.1	154.1
50°	133.2	133.2	133.2	134.0	134.7	135.4	135.4	136.9	138.4	140.7	142.9
52.5°	124.3	124.3	124.3	124.3	125.0	125.8	125.8	127.3	128.8	130.2	132.5
55°	116.1	115.4	116.1	116.1	116.1	116.8	116.8	118.3	118.3	119.8	122.1
57.5°	106.4	107.2	107.2	106.4	107.2	107.9	107.9	107.9	108.7	110.1	110.9
60°	98.2	98.2	98.2	98.2	99.0	99.0	99.0	99.0	99.7	99.7	101.2
62.5°	89.3	89.3	90.1	90.1	89.3	90.1	90.1	90.1	90.8	90.8	90.8
65°	81.1	81.1	81.1	81.1	81.1	81.1	81.1	81.1	81.1	81.1	81.1
67.5°	72.2	72.2	72.2	72.2	72.2	72.2	72.2	71.4	71.4	71.4	70.7
70°	64.0	64.0	64.0	63.3	63.3	63.3	63.3	62.5	62.5	61.8	61.0
72.5°	55.1	55.1	55.1	54.3	54.3	54.3	53.6	52.8	52.1	51.4	51.4
75°	46.1	46.1	45.4	44.7	44.7	43.9	43.9	43.2	43.2	41.7	40.9
77.5°	35.7	35.0	35.0	35.0	34.2	33.5	33.5	32.7	32.0	32.0	31.3
80°	21.6	21.6	22.3	21.6	22.3	21.6	21.6	22.3	21.6	20.8	20.8
82.5°	10.4	10.4	11.2	10.4	11.2	11.2	11.2	10.4	10.4	10.4	10.4
85°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	3.7	3.7	3.7
87.5°	3.0	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
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°	562.6	562.6	562.6	562.6	562.6	562.6	562.6	562.6	562.6	562.6	562.6
2.5°	546.3	548.5	549.2	551.5	552.2	553.7	555.2	557.4	559.7	561.9	563.4
5°	527.7	531.4	534.4	538.1	540.3	541.8	546.3	550.0	554.5	558.2	561.9
7.5°	507.6	512.0	518.7	523.2	525.4	529.1	534.4	540.3	546.3	553.0	558.2
10°	484.5	491.2	497.9	506.1	509.8	513.5	520.2	528.4	536.6	544.0	552.2
12.5°	459.9	468.9	477.8	486.0	491.2	495.7	506.1	515.0	524.7	534.4	543.3
15°	436.1	445.8	456.2	466.6	472.6	477.8	488.2	499.4	511.3	522.4	532.9
17.5°	410.1	421.2	433.1	445.0	451.0	457.7	471.1	483.0	496.4	508.3	521.0
20°	383.3	395.9	408.6	423.5	429.4	436.9	450.3	465.1	479.3	493.4	506.8
22.5°	355.7	369.9	384.0	399.7	407.8	415.3	430.9	445.8	461.4	476.3	491.2
25°	327.5	343.8	360.2	375.8	384.8	392.2	409.3	426.4	442.8	458.4	474.1
27.5°	301.4	317.0	334.9	352.0	361.0	369.1	387.7	404.1	422.0	439.1	454.7
30°	277.6	292.5	310.3	328.9	337.9	346.8	365.4	384.0	400.4	418.3	435.4
32.5°	255.3	268.7	286.5	305.1	315.6	323.7	343.1	361.0	379.6	397.4	414.5
35°	234.4	247.8	263.5	282.1	291.0	300.7	320.8	339.4	357.2	375.8	391.5
37.5°	216.6	227.0	241.1	259.0	268.7	278.3	298.4	317.0	334.9	353.5	369.9
40°	199.5	209.1	221.8	237.4	247.1	256.8	276.1	294.7	312.6	331.2	348.3
42.5°	185.3	192.8	203.2	218.1	226.2	235.9	255.3	273.1	291.0	308.9	325.2
45°	171.2	177.9	186.8	198.7	206.9	215.8	234.4	253.0	269.4	285.8	302.2
47.5°	157.8	163.0	171.2	181.6	188.3	196.5	214.3	232.2	248.6	264.2	279.1
50°	145.9	150.3	157.8	165.2	171.2	178.6	194.2	212.1	227.7	243.4	256.8
52.5°	134.7	138.4	143.6	151.1	155.5	161.5	176.4	192.0	207.6	221.8	234.4
55°	124.3	126.5	131.0	136.2	139.9	145.1	157.8	172.7	186.8	199.5	209.9
57.5°	112.4	115.4	118.3	122.1	125.8	128.8	138.4	151.8	164.5	175.6	186.1
60°	102.0	104.2	105.7	109.4	110.9	113.9	121.3	132.5	144.4	154.1	161.5
62.5°	91.5	92.3	93.8	96.7	97.5	99.7	104.9	113.9	122.8	131.7	139.2
65°	81.1	81.1	82.6	83.4	84.8	85.6	89.3	96.0	104.2	110.9	115.4
67.5°	70.7	70.7	71.4	71.4	72.9	72.9	75.2	80.4	85.6	91.5	95.3
70°	60.3	60.3	60.3	60.3	60.3	61.0	62.5	65.5	69.2	73.7	75.9
72.5°	50.6	49.9	49.9	49.1	49.1	49.1	49.9	51.4	54.3	57.3	59.5
75°	40.2	39.4	38.7	38.7	38.0	38.0	38.0	39.4	40.9	42.4	43.2
77.5°	29.8	29.8	29.0	27.5	27.5	26.8	26.8	26.8	27.5	29.0	28.3
80°	20.8	19.3	18.6	18.6	17.9	17.9	17.1	16.4	16.4	16.4	15.6
82.5°	9.7	9.7	9.7	8.9	8.9	8.9	8.9	8.2	8.2	7.4	7.4
85°	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.0	3.0	3.0
87.5°	2.2	2.2	2.2	2.2	2.2	1.5	1.5	1.5	1.5	1.5	1.5
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°	562.6	562.6	562.6	562.6	562.6	562.6	562.6	562.6	562.6	562.6	562.6
2.5°	565.6	567.8	570.1	570.8	571.6	573.8	575.3	577.5	579.0	579.8	581.2
5°	566.4	570.1	573.8	576.0	577.5	581.2	584.2	587.9	590.2	593.9	596.1
7.5°	564.1	570.1	575.3	578.3	581.2	586.5	590.9	595.4	599.1	602.8	606.5
10°	559.7	567.1	574.5	577.5	581.2	587.2	593.9	599.1	604.3	608.8	613.2
12.5°	553.0	561.9	570.8	574.5	578.3	586.5	593.2	599.1	604.3	608.8	611.8
15°	544.0	554.5	564.1	569.3	573.8	582.0	588.7	594.6	599.1	602.1	604.3
17.5°	532.9	544.8	555.9	560.4	565.6	573.1	579.8	584.2	587.2	587.2	587.9
20°	520.2	532.9	544.0	549.2	554.5	560.4	565.6	567.8	567.8	567.8	566.4
22.5°	505.3	518.7	529.9	535.1	539.6	544.0	547.0	547.0	545.5	543.3	541.1
25°	488.2	502.4	512.8	518.0	520.2	523.9	523.2	522.4	520.2	518.0	515.0
27.5°	469.6	483.7	494.9	497.1	498.6	499.4	497.1	495.7	492.7	489.7	487.5
30°	450.3	463.7	472.6	473.3	474.8	474.1	471.1	467.4	464.4	460.7	457.7
32.5°	429.4	442.1	448.0	449.5	448.8	445.8	442.8	439.1	435.4	430.9	427.2
35°	407.1	419.0	422.7	422.0	421.2	417.5	413.0	409.3	404.1	401.1	395.9
37.5°	384.0	395.2	396.7	394.4	392.2	387.7	383.3	379.6	373.6	370.6	366.9
40°	361.0	368.4	368.4	366.2	364.7	360.2	354.3	349.0	344.6	339.4	337.1
42.5°	337.1	343.1	340.1	338.6	336.4	329.7	325.2	320.0	314.1	311.1	307.4
45°	313.3	317.0	313.3	310.3	308.1	302.2	297.7	291.0	285.8	282.8	278.3
47.5°	288.8	290.2	287.3	282.8	281.3	274.6	269.4	264.2	259.0	253.8	250.1
50°	266.4	264.9	260.5	257.5	255.3	247.8	241.9	235.9	231.5	227.0	223.3
52.5°	241.1	239.6	233.7	230.0	226.2	220.3	212.8	208.4	203.2	199.5	195.7
55°	215.1	210.6	206.2	202.4	198.7	192.8	186.1	180.1	176.4	171.9	169.7
57.5°	188.3	185.3	177.9	174.9	171.9	166.0	159.3	154.1	148.8	145.9	144.4
60°	164.5	159.3	153.3	149.6	146.6	140.7	134.7	129.5	125.8	124.3	122.1
62.5°	139.2	134.7	128.0	125.0	122.8	116.8	111.6	107.2	104.2	101.2	99.7
65°	116.1	110.9	105.7	102.7	99.7	94.5	90.8	87.8	84.1	81.9	80.4
67.5°	93.8	89.3	84.8	82.6	80.4	75.9	72.2	70.0	67.0	64.7	61.8
70°	73.7	70.0	67.0	64.7	62.5	58.8	55.8	53.6	51.4	49.1	46.9
72.5°	57.3	53.6	49.9	49.1	47.6	44.7	42.4	40.2	38.0	36.5	35.0
75°	40.9	39.4	36.5	35.0	34.2	32.0	29.8	28.3	27.5	26.0	25.3
77.5°	26.8	25.3	23.1	23.1	22.3	21.6	20.1	18.6	18.6	17.9	17.9
80°	14.9	14.1	13.4	12.7	13.4	12.7	11.9	11.2	11.2	11.2	10.4
82.5°	6.7	6.7	6.0	6.0	6.0	6.0	6.0	5.2	5.2	5.2	5.2
85°	3.0	3.0	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
87.5°	1.5	1.5	1.5	1.5	1.5	1.5	0.7	0.7	0.7	0.7	0.7
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: P345400

CATALOG NUMBER: PR4FS12D010 PR4M12WW8FSMW 1500lm3000K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	562.6	562.6	562.6	562.6	562.6	562.6	562.6	562.6
2.5°	582.7	583.5	584.2	585.0	585.7	585.7	586.5	587.2
5°	597.6	599.8	600.6	601.3	602.8	603.6	603.6	604.3
7.5°	609.5	612.5	613.2	614.7	616.2	617.0	617.7	617.7
10°	616.2	618.5	619.2	620.7	622.2	622.9	623.7	623.7
12.5°	614.0	616.2	617.0	617.7	619.2	619.9	619.9	619.9
15°	605.8	605.8	605.8	605.8	605.1	605.8	605.8	604.3
17.5°	587.2	586.5	587.2	585.7	585.0	585.0	584.2	584.2
20°	564.9	564.1	563.4	563.4	562.6	561.1	560.4	559.7
22.5°	539.6	538.1	537.3	537.3	535.8	535.1	534.4	532.9
25°	513.5	509.8	509.8	509.8	508.3	508.3	506.8	505.3
27.5°	483.7	481.5	481.5	480.0	478.5	477.8	477.1	477.8
30°	455.5	452.5	451.0	450.3	449.5	449.5	447.3	446.5
32.5°	424.2	422.0	420.5	419.7	418.3	417.5	416.8	415.3
35°	393.7	391.5	390.0	390.0	387.0	386.3	385.5	385.5
37.5°	362.4	361.0	360.2	358.0	357.2	356.5	356.5	355.7
40°	333.4	331.2	330.4	328.2	327.5	327.5	325.2	326.0
42.5°	303.6	300.7	299.9	299.2	298.4	296.9	297.7	296.2
45°	275.4	273.1	271.6	271.6	270.9	269.4	268.7	269.4
47.5°	247.8	244.9	244.9	244.1	243.4	242.6	242.6	241.1
50°	221.8	219.5	218.1	216.6	217.3	216.6	215.1	215.8
52.5°	193.5	191.3	190.5	190.5	189.8	189.8	189.0	189.0
55°	168.2	166.0	166.0	165.2	165.2	165.2	164.5	164.5
57.5°	142.9	141.4	140.7	140.7	139.2	139.9	139.2	138.4
60°	120.6	118.3	116.8	117.6	116.8	116.8	115.4	116.1
62.5°	97.5	96.0	95.3	95.3	93.8	93.8	92.3	93.0
65°	78.1	75.9	75.2	74.4	72.9	72.2	72.2	72.2
67.5°	60.3	58.8	58.0	56.6	55.1	54.3	53.6	52.8
70°	45.4	43.9	43.2	42.4	41.7	40.9	40.9	40.2
72.5°	34.2	32.7	32.7	32.0	32.0	31.3	31.3	31.3
75°	24.6	24.6	23.8	23.8	23.1	23.8	23.1	23.1
77.5°	17.1	16.4	17.1	16.4	15.6	15.6	15.6	15.6
80°	9.7	9.7	9.7	9.7	9.7	9.7	9.7	8.9
82.5°	5.2	5.2	5.2	4.5	4.5	4.5	4.5	4.5
85°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
87.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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