

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: P345394

Luminaire Tested: **PR4FS12D010 PR4M12WW8FSMW 1000Lm3000K**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P345394
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 1000Lm3000K
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: 792.0 lumens
Efficiency: N/A
Efficacy: 76.2 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

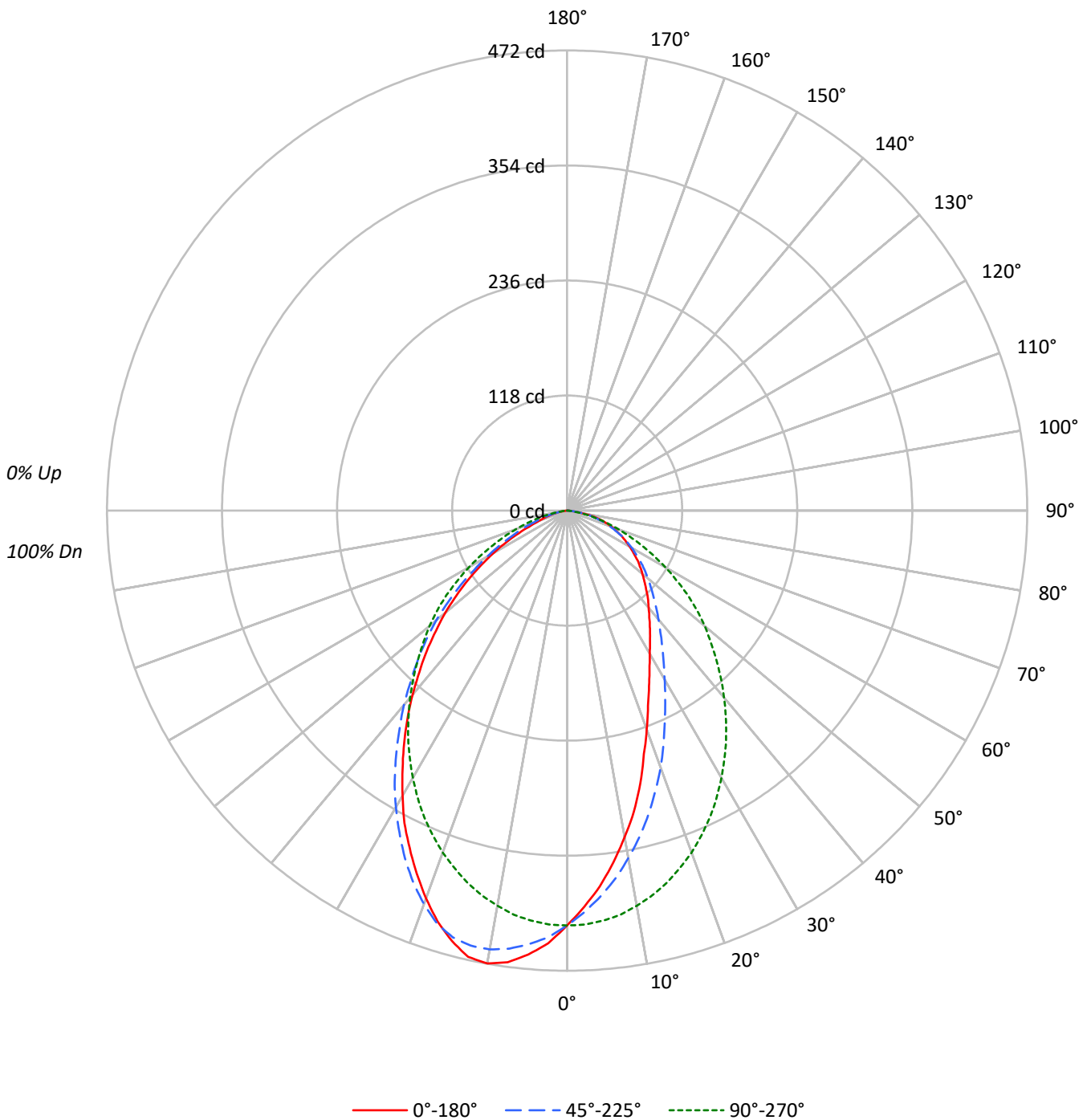
Input Watts (W): 10.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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CATALOG NUMBER: PR4FS12D010 PR4M12WW8FSMW 1000lm3000K

Luminous Intensity Polar Plot





TEST NUMBER: P345394

CATALOG NUMBER: PR4F512D010 PR4M12WW8FSMW 1000Lm3000K

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°	37227	37227	37227
5°	33954	37071	40135
10°	30198	36549	41896
15°	26252	35787	41393
20°	22219	34739	39402
25°	19177	33470	36887
30°	17110	31957	34108
35°	15804	30358	31137
40°	14844	28603	28158
45°	14201	26744	25210
50°	13717	25052	22208
55°	13389	23012	18971
60°	12998	20380	15360
65°	12708	17365	11301
70°	12378	14245	7775
75°	11795	10848	5914
80°	8211	6246	3425
85°	3412	2308	1104



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.9	5.0
10°-20°	108.1	13.6
20°-30°	146.0	18.4
30°-40°	153.7	19.4
40°-50°	138.5	17.5
50°-60°	106.9	13.5
60°-70°	65.8	8.3
70°-80°	28.9	3.7
80°-90°	4.1	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°	294.0	37.1
0°-40°	447.7	56.5
0°-60°	693.1	87.5
0°-90°	792.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	792.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	426	426	426	426	426	
5°	387	397	422	446	457	35
15°	290	322	395	453	457	81
25°	199	237	347	394	382	92
35°	148	170	284	306	292	93
45°	115	126	216	216	204	89
55°	88	92	151	133	124	78
65°	61	61	84	64	55	61
75°	35	31	32	21	18	36
85°	3	3	2	2	1	6
90°	0	0	0	0	0	



TEST NUMBER: P345394

CATALOG NUMBER: PR4FS12D010 PR4M12WW8FSMW 1000lm3000K

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	425.6	425.6	425.6	425.6	425.6	425.6	425.6	425.6	425.6	425.6	425.6
2.5°	406.4	407.0	407.0	407.0	407.5	408.1	408.1	409.2	409.8	410.9	412.0
5°	386.7	386.2	386.2	387.3	388.4	389.0	389.0	391.2	392.9	394.6	396.8
7.5°	363.6	363.1	364.8	365.3	366.5	368.1	369.3	371.5	373.2	377.1	380.5
10°	340.0	340.0	341.1	342.8	344.5	346.2	347.3	350.1	353.5	357.4	361.9
12.5°	316.4	314.7	316.4	318.6	320.3	322.0	323.7	327.0	332.1	337.2	342.8
15°	289.9	289.3	290.5	292.7	296.7	297.8	299.5	304.5	309.6	316.4	322.5
17.5°	261.8	263.4	264.0	267.4	271.3	273.0	274.7	279.8	287.1	293.8	301.2
20°	238.7	237.5	239.8	242.1	245.4	248.2	250.5	256.1	264.0	271.3	280.3
22.5°	216.7	216.2	217.8	220.7	223.5	225.7	228.0	233.6	239.8	248.2	258.4
25°	198.7	198.1	199.8	201.5	204.9	206.6	208.3	213.9	220.7	227.4	237.0
27.5°	182.9	182.9	184.1	185.2	188.0	189.7	192.0	196.5	202.1	208.8	217.8
30°	169.4	169.4	170.6	171.7	174.5	175.6	177.3	180.7	185.2	192.5	199.8
32.5°	158.2	158.2	158.7	160.4	161.6	162.7	164.4	167.2	171.7	177.3	184.1
35°	148.0	148.0	148.6	149.7	151.4	152.0	153.1	155.9	159.3	163.8	170.0
37.5°	138.5	139.0	139.0	140.2	141.3	141.9	143.0	145.2	148.0	152.0	157.1
40°	130.0	130.6	130.6	131.7	132.8	133.4	134.0	135.1	138.5	141.3	145.8
42.5°	122.7	122.7	122.7	123.3	124.4	125.0	125.5	127.2	128.9	131.7	135.1
45°	114.8	114.8	115.4	116.0	117.1	117.1	117.6	119.3	120.5	122.7	125.5
47.5°	107.5	107.5	108.1	108.1	109.2	109.2	109.8	110.9	112.0	114.3	116.5
50°	100.8	100.8	100.8	101.3	101.9	102.4	102.4	103.6	104.7	106.4	108.1
52.5°	94.0	94.0	94.0	94.0	94.6	95.1	95.1	96.3	97.4	98.5	100.2
55°	87.8	87.3	87.8	87.8	87.8	88.4	88.4	89.5	89.5	90.6	92.3
57.5°	80.5	81.1	81.1	80.5	81.1	81.6	81.6	81.6	82.2	83.3	83.9
60°	74.3	74.3	74.3	74.3	74.9	74.9	74.9	74.9	75.4	75.4	76.6
62.5°	67.5	67.5	68.1	68.1	67.5	68.1	68.1	68.1	68.7	68.7	68.7
65°	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4
67.5°	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.0	54.0	54.0	53.5
70°	48.4	48.4	48.4	47.8	47.8	47.8	47.8	47.3	47.3	46.7	46.2
72.5°	41.7	41.7	41.7	41.1	41.1	41.1	40.5	40.0	39.4	38.8	38.8
75°	34.9	34.9	34.3	33.8	33.8	33.2	33.2	32.6	32.6	31.5	31.0
77.5°	27.0	26.5	26.5	26.5	25.9	25.3	25.3	24.8	24.2	24.2	23.6
80°	16.3	16.3	16.9	16.3	16.9	16.3	16.3	16.9	16.3	15.8	15.8
82.5°	7.9	7.9	8.4	7.9	8.4	8.4	8.4	7.9	7.9	7.9	7.9
85°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	2.8	2.8	2.8
87.5°	2.3	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
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°	425.6	425.6	425.6	425.6	425.6	425.6	425.6	425.6	425.6	425.6	425.6
2.5°	413.2	414.9	415.4	417.1	417.7	418.8	419.9	421.6	423.3	425.0	426.1
5°	399.1	401.9	404.2	407.0	408.7	409.8	413.2	416.0	419.4	422.2	425.0
7.5°	383.9	387.3	392.3	395.7	397.4	400.2	404.2	408.7	413.2	418.2	422.2
10°	366.5	371.5	376.6	382.8	385.6	388.4	393.5	399.7	405.9	411.5	417.7
12.5°	347.9	354.6	361.4	367.6	371.5	374.9	382.8	389.5	396.8	404.2	410.9
15°	329.9	337.2	345.1	352.9	357.4	361.4	369.3	377.7	386.7	395.2	403.0
17.5°	310.2	318.6	327.6	336.6	341.1	346.2	356.3	365.3	375.5	384.5	394.0
20°	289.9	299.5	309.0	320.3	324.8	330.4	340.6	351.8	362.5	373.2	383.3
22.5°	269.1	279.8	290.5	302.3	308.5	314.1	325.9	337.2	349.0	360.3	371.5
25°	247.7	260.1	272.4	284.3	291.0	296.7	309.6	322.5	334.9	346.8	358.6
27.5°	228.0	239.8	253.3	266.3	273.0	279.2	293.3	305.7	319.2	332.1	343.9
30°	210.0	221.2	234.7	248.8	255.6	262.3	276.4	290.5	302.8	316.4	329.3
32.5°	193.1	203.2	216.7	230.8	238.7	244.9	259.5	273.0	287.1	300.6	313.5
35°	177.3	187.4	199.3	213.3	220.1	227.4	242.6	256.7	270.2	284.3	296.1
37.5°	163.8	171.7	182.4	195.9	203.2	210.5	225.7	239.8	253.3	267.4	279.8
40°	150.9	158.2	167.7	179.6	186.9	194.2	208.8	222.9	236.4	250.5	263.4
42.5°	140.2	145.8	153.7	164.9	171.1	178.4	193.1	206.6	220.1	233.6	246.0
45°	129.5	134.5	141.3	150.3	156.5	163.2	177.3	191.4	203.8	216.2	228.5
47.5°	119.3	123.3	129.5	137.3	142.4	148.6	162.1	175.6	188.0	199.8	211.1
50°	110.3	113.7	119.3	125.0	129.5	135.1	146.9	160.4	172.2	184.1	194.2
52.5°	101.9	104.7	108.6	114.3	117.6	122.2	133.4	145.2	157.1	167.7	177.3
55°	94.0	95.7	99.1	103.0	105.8	109.8	119.3	130.6	141.3	150.9	158.7
57.5°	85.0	87.3	89.5	92.3	95.1	97.4	104.7	114.8	124.4	132.8	140.7
60°	77.1	78.8	79.9	82.7	83.9	86.1	91.8	100.2	109.2	116.5	122.2
62.5°	69.2	69.8	70.9	73.2	73.7	75.4	79.4	86.1	92.9	99.6	105.3
65°	61.4	61.4	62.5	63.0	64.2	64.7	67.5	72.6	78.8	83.9	87.3
67.5°	53.5	53.5	54.0	54.0	55.2	55.2	56.9	60.8	64.7	69.2	72.1
70°	45.6	45.6	45.6	45.6	45.6	46.2	47.3	49.5	52.4	55.7	57.4
72.5°	38.3	37.7	37.7	37.2	37.2	37.2	37.7	38.8	41.1	43.3	45.0
75°	30.4	29.8	29.3	29.3	28.7	28.7	28.7	29.8	31.0	32.1	32.6
77.5°	22.5	22.5	22.0	20.8	20.8	20.3	20.3	20.3	20.8	22.0	21.4
80°	15.8	14.6	14.1	14.1	13.5	13.5	12.9	12.4	12.4	12.4	11.8
82.5°	7.3	7.3	7.3	6.8	6.8	6.8	6.8	6.2	6.2	5.6	5.6
85°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.3	2.3	2.3	2.3
87.5°	1.7	1.7	1.7	1.7	1.7	1.1	1.1	1.1	1.1	1.1	1.1
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°	425.6	425.6	425.6	425.6	425.6	425.6	425.6	425.6	425.6	425.6	425.6
2.5°	427.8	429.5	431.2	431.8	432.3	434.0	435.1	436.8	437.9	438.5	439.6
5°	428.4	431.2	434.0	435.7	436.8	439.6	441.9	444.7	446.4	449.2	450.9
7.5°	426.7	431.2	435.1	437.4	439.6	443.6	446.9	450.3	453.1	456.0	458.8
10°	423.3	428.9	434.6	436.8	439.6	444.1	449.2	453.1	457.1	460.5	463.8
12.5°	418.2	425.0	431.8	434.6	437.4	443.6	448.6	453.1	457.1	460.5	462.7
15°	411.5	419.4	426.7	430.6	434.0	440.2	445.3	449.8	453.1	455.4	457.1
17.5°	403.0	412.0	420.5	423.9	427.8	433.4	438.5	441.9	444.1	444.1	444.7
20°	393.5	403.0	411.5	415.4	419.4	423.9	427.8	429.5	429.5	429.5	428.4
22.5°	382.2	392.3	400.8	404.7	408.1	411.5	413.7	413.7	412.6	410.9	409.2
25°	369.3	380.0	387.8	391.8	393.5	396.3	395.7	395.2	393.5	391.8	389.5
27.5°	355.2	365.9	374.3	376.0	377.1	377.7	376.0	374.9	372.6	370.4	368.7
30°	340.6	350.7	357.4	358.0	359.1	358.6	356.3	353.5	351.3	348.4	346.2
32.5°	324.8	334.4	338.9	340.0	339.4	337.2	334.9	332.1	329.3	325.9	323.1
35°	307.9	316.9	319.7	319.2	318.6	315.8	312.4	309.6	305.7	303.4	299.5
37.5°	290.5	298.9	300.0	298.3	296.7	293.3	289.9	287.1	282.6	280.3	277.5
40°	273.0	278.6	278.6	277.0	275.8	272.4	267.9	264.0	260.6	256.7	255.0
42.5°	255.0	259.5	257.2	256.1	254.4	249.4	246.0	242.1	237.5	235.3	232.5
45°	237.0	239.8	237.0	234.7	233.0	228.5	225.2	220.1	216.2	213.9	210.5
47.5°	218.4	219.5	217.3	213.9	212.8	207.7	203.8	199.8	195.9	192.0	189.1
50°	201.5	200.4	197.0	194.8	193.1	187.4	182.9	178.4	175.1	171.7	168.9
52.5°	182.4	181.3	176.8	173.9	171.1	166.6	161.0	157.6	153.7	150.9	148.0
55°	162.7	159.3	155.9	153.1	150.3	145.8	140.7	136.2	133.4	130.0	128.3
57.5°	142.4	140.2	134.5	132.3	130.0	125.5	120.5	116.5	112.6	110.3	109.2
60°	124.4	120.5	116.0	113.1	110.9	106.4	101.9	97.9	95.1	94.0	92.3
62.5°	105.3	101.9	96.8	94.6	92.9	88.4	84.4	81.1	78.8	76.6	75.4
65°	87.8	83.9	79.9	77.7	75.4	71.5	68.7	66.4	63.6	61.9	60.8
67.5°	70.9	67.5	64.2	62.5	60.8	57.4	54.6	52.9	50.7	49.0	46.7
70°	55.7	52.9	50.7	49.0	47.3	44.5	42.2	40.5	38.8	37.2	35.5
72.5°	43.3	40.5	37.7	37.2	36.0	33.8	32.1	30.4	28.7	27.6	26.5
75°	31.0	29.8	27.6	26.5	25.9	24.2	22.5	21.4	20.8	19.7	19.1
77.5°	20.3	19.1	17.5	17.5	16.9	16.3	15.2	14.1	14.1	13.5	13.5
80°	11.3	10.7	10.1	9.6	10.1	9.6	9.0	8.4	8.4	8.4	7.9
82.5°	5.1	5.1	4.5	4.5	4.5	4.5	4.5	3.9	3.9	3.9	3.9
85°	2.3	2.3	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
87.5°	1.1	1.1	1.1	1.1	1.1	1.1	0.6	0.6	0.6	0.6	0.6
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: P345394

CATALOG NUMBER: PR4FS12D010 PR4M12WW8FSMW 1000lm3000K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	425.6	425.6	425.6	425.6	425.6	425.6	425.6	425.6
2.5°	440.8	441.3	441.9	442.4	443.0	443.0	443.6	444.1
5°	452.0	453.7	454.3	454.8	456.0	456.5	456.5	457.1
7.5°	461.0	463.3	463.8	465.0	466.1	466.7	467.2	467.2
10°	466.1	467.8	468.3	469.5	470.6	471.2	471.7	471.7
12.5°	464.4	466.1	466.7	467.2	468.3	468.9	468.9	468.9
15°	458.2	458.2	458.2	458.2	457.6	458.2	458.2	457.1
17.5°	444.1	443.6	444.1	443.0	442.4	442.4	441.9	441.9
20°	427.2	426.7	426.1	426.1	425.6	424.4	423.9	423.3
22.5°	408.1	407.0	406.4	406.4	405.3	404.7	404.2	403.0
25°	388.4	385.6	385.6	385.6	384.5	384.5	383.3	382.2
27.5°	365.9	364.2	364.2	363.1	361.9	361.4	360.8	361.4
30°	344.5	342.2	341.1	340.6	340.0	340.0	338.3	337.7
32.5°	320.9	319.2	318.0	317.5	316.4	315.8	315.2	314.1
35°	297.8	296.1	295.0	295.0	292.7	292.1	291.6	291.6
37.5°	274.1	273.0	272.4	270.8	270.2	269.6	269.6	269.1
40°	252.2	250.5	249.9	248.2	247.7	247.7	246.0	246.6
42.5°	229.7	227.4	226.9	226.3	225.7	224.6	225.2	224.0
45°	208.3	206.6	205.5	205.5	204.9	203.8	203.2	203.8
47.5°	187.4	185.2	185.2	184.6	184.1	183.5	183.5	182.4
50°	167.7	166.1	164.9	163.8	164.4	163.8	162.7	163.2
52.5°	146.4	144.7	144.1	144.1	143.5	143.5	143.0	143.0
55°	127.2	125.5	125.5	125.0	125.0	125.0	124.4	124.4
57.5°	108.1	107.0	106.4	106.4	105.3	105.8	105.3	104.7
60°	91.2	89.5	88.4	88.9	88.4	88.4	87.3	87.8
62.5°	73.7	72.6	72.1	72.1	70.9	70.9	69.8	70.4
65°	59.1	57.4	56.9	56.3	55.2	54.6	54.6	54.6
67.5°	45.6	44.5	43.9	42.8	41.7	41.1	40.5	40.0
70°	34.3	33.2	32.6	32.1	31.5	31.0	31.0	30.4
72.5°	25.9	24.8	24.8	24.2	24.2	23.6	23.6	23.6
75°	18.6	18.6	18.0	18.0	17.5	18.0	17.5	17.5
77.5°	12.9	12.4	12.9	12.4	11.8	11.8	11.8	11.8
80°	7.3	7.3	7.3	7.3	7.3	7.3	7.3	6.8
82.5°	3.9	3.9	3.9	3.4	3.4	3.4	3.4	3.4
85°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
87.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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