

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: FAIL-SAFE

Report Number: 168P189

Luminaire Tested: **MPWA-0/154-EXL-WHT**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: 168P189
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MPWA-0/154-EXL-WHT
Description: Medical Patient Wall Bracket, Architectural style
angled and rounded front, upper and lower compartments
different in size with reflector insert.
Light Source: One - F54T5/841 HO - 4400 Lumens - 54 Watts
Ballast/Driver: One - Advance ICN-2S54

Luminaire Equipment:	<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
	AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
	AS-5443-2	Good	REFLECTOR
	AS-5443-3	Good	DRIVER
	AS-5443-4	Good	UPPER MODULE
	AS-5443-5	Good	LENS
	AS-5443-6	Good	DRIVER 2
	AS-5443-7	Good	TRIM RING

Summary

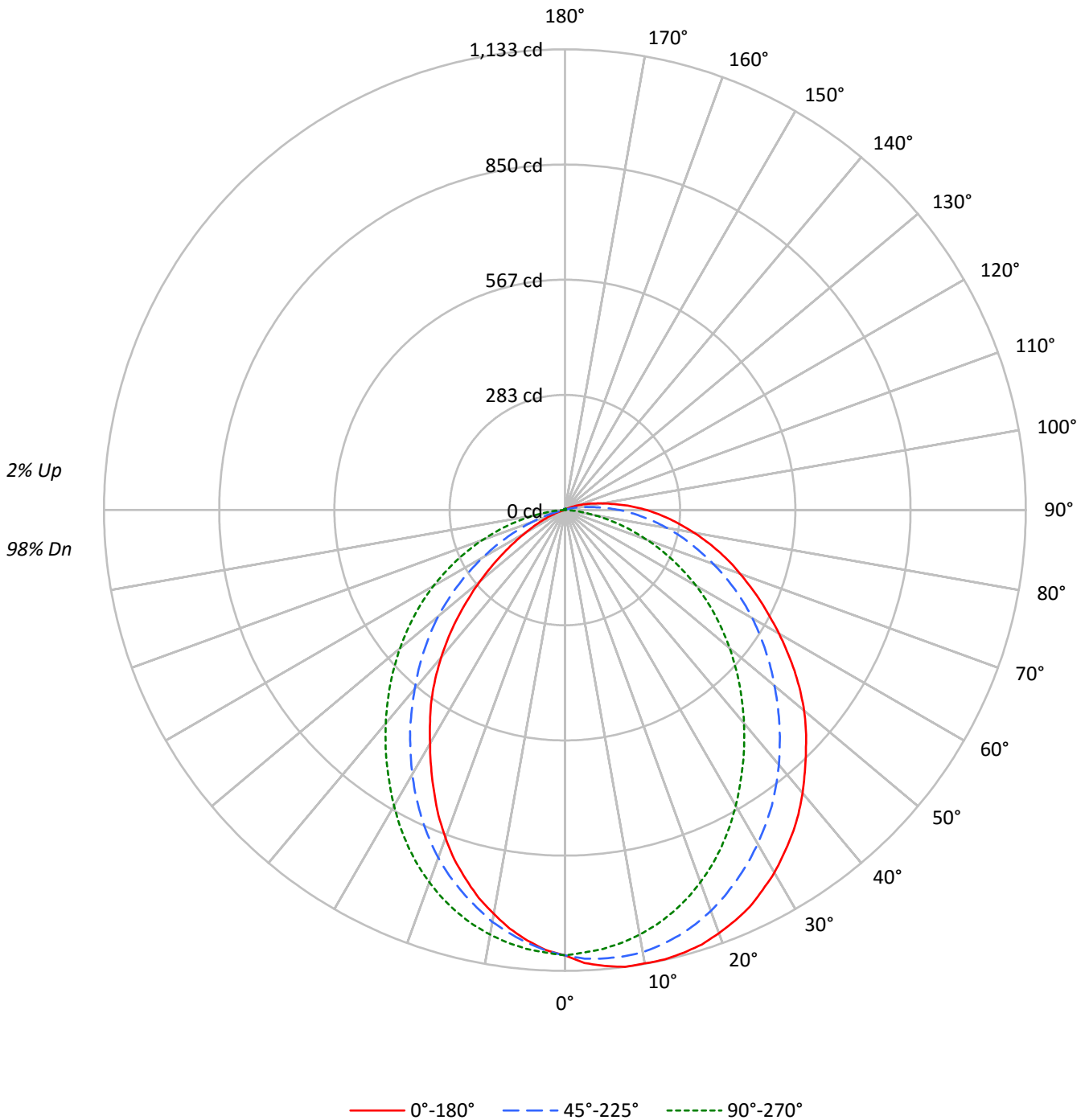
Lumens per Lamp: 4400 (1 lamp)
Luminaire Lumens: 2818.7 lumens
Efficiency: 64.1%
Efficacy: 49.5 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.15 / 1.28
Luminous Opening: Rectangular w/ Sides (W: 3.83' x L: 0.43' x H: 0.25')
CIE Type: Direct

Input Watts (W): 57
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	0
RCR																		
0	76	76	76	76	74	74	74	74	70	70	70	67	67	67	64	64	64	63
1	69	66	63	61	67	64	62	59	61	59	57	59	57	55	56	55	53	52
2	63	58	53	50	61	56	52	49	54	50	47	51	49	46	49	47	45	43
3	58	51	46	41	56	50	45	41	48	43	40	46	42	39	44	41	38	37
4	53	45	40	35	51	44	39	35	42	38	34	41	37	34	39	36	33	32
5	49	41	35	31	47	40	34	30	38	33	30	37	33	29	35	32	29	28
6	45	37	31	27	44	36	31	27	35	30	26	33	29	26	32	29	26	24
7	42	33	28	24	41	33	27	24	32	27	23	31	26	23	30	26	23	22
8	39	30	25	21	38	30	25	21	29	24	21	28	24	21	27	23	21	19
9	36	28	23	19	35	28	23	19	27	22	19	26	22	19	25	21	19	18
10	34	26	21	18	33	25	21	17	25	20	17	24	20	17	23	20	17	16

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	7157	7157	7157
5°	7024	7065	6630
10°	6814	6955	6068
15°	6598	6810	5503
20°	6355	6617	4925
25°	6105	6383	4323
30°	5820	6109	3746
35°	5523	5822	3243
40°	5213	5541	2712
45°	4898	5267	2168
50°	4613	4991	1634
55°	4289	4701	1139
60°	3960	4381	729
65°	3655	3988	434
70°	3377	3500	206
75°	3115	2904	56
80°	2829	2115	9
85°	2550	1160	0



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	103.1	3.7	2.3	0°	1095	1095	1095	1095	1095	
10°-20°	289.4	10.3	6.6	5°	1125	1107	1083	1068	1062	108
20°-30°	421.3	14.9	9.6	15°	1127	1083	1024	973	940	318
30°-40°	481.3	17.1	10.9	25°	1076	1002	912	834	762	495
40°-50°	472.1	16.7	10.7	35°	974	887	763	663	572	609
50°-60°	403.4	14.3	9.2	45°	838	746	607	490	371	648
60°-70°	297.6	10.6	6.8	55°	689	602	451	318	183	616
70°-80°	185.6	6.6	4.2	65°	531	461	294	154	63	527
80°-90°	97.9	3.5	2.2	75°	391	320	143	36	7	413
90°-100°	42.3	1.5	1.0	85°	260	192	27	2	0	225
100°-110°	14.4	0.5	0.3	90°	201	134	3	2	0	110
110°-120°	4.5	0.2	0.1	95°	144	78	2	2	0	107
120°-130°	2.4	0.1	0.1	105°	59	19	2	2	0	64
130°-140°	2.1	0.1	0.0	115°	17	5	2	2	1	19
140°-150°	1.4	0.0	0.0	125°	4	2	3	2	1	4
150°-160°	0.0	0.0	0.0	135°	2	3	4	3	2	1
160°-170°	0.0	0.0	0.0	145°	1	4	4	4	3	1
170°-180°	0.0	0.0	0.0	155°	0	0	0	0	0	0
0°-30°	813.8	28.9	18.5	165°	0	0	0	0	0	0
0°-40°	1295.2	45.9	29.4	175°	0	0	0	0	0	0
0°-60°	2170.6	77.0	49.3	180°	0	0	0	0	0	0
0°-90°	2751.7	97.6	62.5							
90°-120°	61.1	2.2	1.4							
90°-150°	66.9	2.4	1.5							
90°-180°	67.0	2.4	1.5							
0°-180°	2818.7	100.0	64.1							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1095	1095	1095	1095	1095	1095	1095	1095	1095
2.5°	1115	1107	1104	1096	1089	1085	1084	1081	1083
5°	1125	1115	1107	1096	1083	1074	1068	1062	1062
7.5°	1133	1119	1107	1090	1073	1060	1049	1040	1038
10°	1132	1118	1104	1081	1060	1041	1028	1013	1008
12.5°	1132	1114	1095	1068	1044	1021	1001	983	977
15°	1127	1107	1083	1053	1024	998	973	952	940
17.5°	1120	1096	1068	1032	1001	973	943	915	902
20°	1107	1082	1049	1009	974	943	910	876	858
22.5°	1093	1064	1027	983	945	910	873	834	812
25°	1076	1043	1002	953	912	875	834	788	762
27.5°	1053	1022	976	921	877	837	793	740	712
30°	1030	995	948	887	840	799	750	692	663
32.5°	1002	968	918	851	801	759	706	645	617
35°	974	939	887	815	763	719	663	600	572
37.5°	943	909	853	779	724	678	618	556	523
40°	909	877	818	744	685	636	574	510	473
42.5°	873	843	782	707	646	594	532	463	423
45°	838	809	746	670	607	553	490	415	371
47.5°	804	774	709	634	568	511	448	367	320
50°	768	738	673	597	529	469	406	319	272
52.5°	729	701	638	561	490	426	362	272	226
55°	689	662	602	524	451	384	318	227	183
57.5°	648	623	567	488	412	342	275	185	145
60°	608	585	532	451	373	301	233	147	112
62.5°	568	547	497	414	333	259	193	113	85
65°	531	511	461	378	294	218	154	84	63
67.5°	494	476	425	342	254	178	118	61	43
70°	459	441	389	306	216	139	86	41	28
72.5°	425	406	354	271	179	103	58	25	16
75°	391	372	320	236	143	72	36	14	7
77.5°	357	339	288	203	109	45	19	5	2
80°	323	305	255	170	77	24	7	2	1
82.5°	290	273	224	138	49	11	2	1	0
85°	260	241	192	108	27	3	2	1	0
87.5°	230	211	163	80	11	2	2	1	0
90°	201	181	134	56	3	2	2	1	0
92.5°	172	151	105	34	2	2	2	1	0
95°	144	123	78	19	2	2	2	1	0
97.5°	116	96	57	10	2	2	2	1	0
100°	94	76	41	6	2	2	2	0	0
102.5°	75	59	28	4	2	2	1	1	0
105°	59	45	19	3	2	2	2	1	0
107.5°	45	33	12	3	2	2	2	1	1
110°	34	24	8	2	2	2	1	1	0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	24	16	6	2	2	2	1	1	0
115°	17	11	5	2	2	2	2	1	1
117.5°	12	8	4	2	2	2	2	1	1
120°	8	6	3	2	2	2	2	1	1
122.5°	6	4	3	3	2	3	2	1	1
125°	4	3	2	3	3	3	2	2	1
127.5°	3	3	2	3	3	3	3	2	1
130°	2	2	2	3	3	3	3	2	2
132.5°	2	2	3	3	3	3	3	2	2
135°	2	2	3	3	4	3	3	2	2
137.5°	1	2	3	3	4	4	3	3	2
140°	1	2	3	4	4	4	3	3	2
142.5°	2	2	4	4	4	4	4	3	3
145°	1	2	4	4	4	4	4	3	3
147.5°	0	0	0	0	0	0	0	0	0
150°	0	0	0	0	0	0	0	0	0
152.5°	0	0	0	0	0	0	0	0	0
155°	0	0	0	0	0	0	0	0	0
157.5°	0	0	0	0	0	0	0	0	0
160°	0	0	0	0	0	0	0	0	0
162.5°	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0
167.5°	0	0	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0	0	0
172.5°	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0
177.5°	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0

(END OF REPORT)