

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: 168P167

Luminaire Tested: **MPWC-1/232-WHT-NRL**

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: 168P167
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MPWC-1/232-WHT-NRL
Description: Medical Patient Wall Bracket, Traditional Style.
Rectangular Shaped with upper and lower compartments.
Light Source: Three - FO32/35K - 2800 Lumens ea. - 32 Watts ea.
Ballast/Driver: One - Triad B1321120RH-A ; One - Advance REL-2P32-SC

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

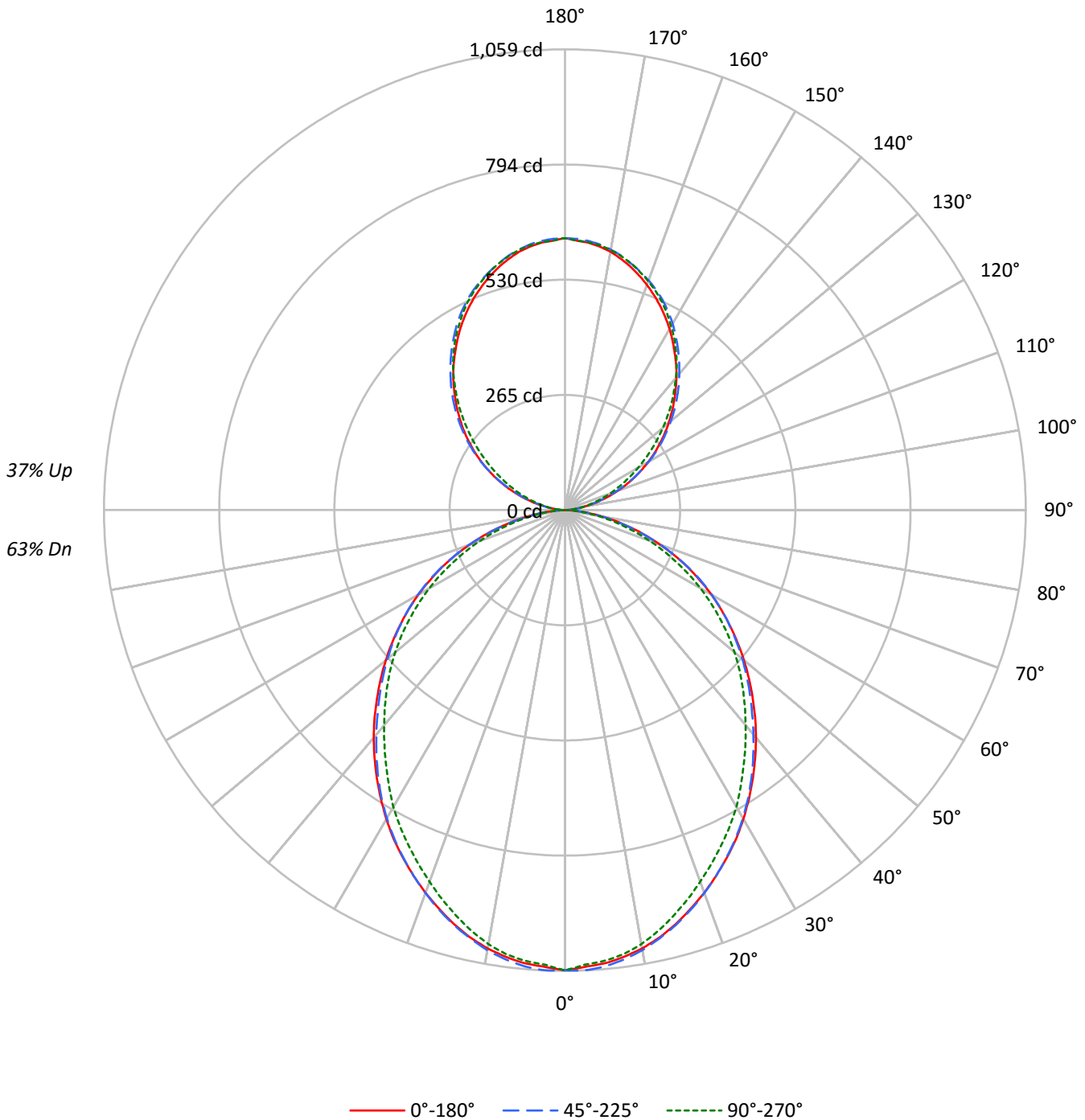
Lumens per Lamp: 2800 (3 lamps)
Luminaire Lumens: 4151.0 lumens
Efficiency: 49.4%
Efficacy: 51.2 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.12 / 1.27
Luminous Opening: Rectangular (W 0.29' x L: 3.83' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 81
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	54	54	54	54	51	51	51	51	45	45	45	39	39	39	34	34	34	31
1	50	48	46	44	47	45	43	42	39	38	37	34	33	33	30	29	29	26
2	45	42	39	36	42	39	36	34	35	32	31	30	29	27	26	25	24	22
3	41	37	33	30	39	35	31	29	30	28	26	27	25	23	23	22	21	19
4	38	32	28	25	35	31	27	24	27	24	22	24	22	20	21	19	18	16
5	35	29	25	22	33	27	24	21	24	21	19	21	19	17	19	17	15	14
6	32	26	22	19	30	25	21	18	22	19	17	19	17	15	17	15	14	12
7	30	24	20	17	28	22	19	16	20	17	15	18	15	13	16	14	12	11
8	28	21	18	15	26	20	17	14	18	15	13	16	14	12	14	12	11	10
9	26	20	16	13	24	19	15	13	17	14	12	15	13	11	13	11	10	9
10	24	18	14	12	23	17	14	12	15	13	11	14	11	10	12	10	9	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10253	10253	10253
5°	10176	10244	10117
10°	10067	10106	9969
15°	9882	9903	9682
20°	9653	9663	9375
25°	9420	9410	9089
30°	9176	9154	8818
35°	8908	8849	8471
40°	8641	8527	8172
45°	8360	8251	7922
50°	8096	8021	7674
55°	7823	7806	7350
60°	7540	7559	6978
65°	7155	7200	6490
70°	6630	6659	5894
75°	5954	5879	5167
80°	5023	4855	4297
85°	3892	3669	3225



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	99.4	2.4	1.2	0°	1058	1058	1058	1058	1058	
10°-20°	276.8	6.7	3.3	5°	1046	1050	1053	1055	1040	99
20°-30°	403.0	9.7	4.8	15°	985	987	987	982	965	277
30°-40°	464.8	11.2	5.5	25°	881	886	880	868	850	406
40°-50°	463.2	11.2	5.5	35°	753	757	748	732	716	471
50°-60°	407.9	9.8	4.9	45°	610	614	602	590	578	471
60°-70°	302.0	7.3	3.6	55°	463	466	462	448	435	414
70°-80°	162.8	3.9	1.9	65°	312	314	314	296	283	308
80°-90°	40.2	1.0	0.5	75°	159	161	157	146	138	169
90°-100°	20.9	0.5	0.2	85°	35	36	33	30	29	40
100°-110°	86.3	2.1	1.0	90°	0	3	3	3	3	2
110°-120°	166.4	4.0	2.0	95°	15	18	17	17	17	19
120°-130°	234.5	5.7	2.8	105°	85	89	81	75	72	91
130°-140°	275.5	6.6	3.3	115°	175	180	173	156	149	173
140°-150°	280.1	6.7	3.3	125°	266	273	271	251	243	238
150°-160°	242.9	5.9	2.9	135°	355	363	364	351	346	274
160°-170°	165.3	4.0	2.0	145°	440	449	453	448	445	276
170°-180°	58.9	1.4	0.7	155°	518	526	532	531	528	238
0°-30°	779.2	18.8	9.3	165°	580	585	587	591	587	163
0°-40°	1244.0	30.0	14.8	175°	617	621	621	624	618	58
0°-60°	2115.1	51.0	25.2	180°	625	625	625	625	625	
0°-90°	2620.1	63.1	31.2							
90°-120°	273.6	6.6	3.3							
90°-150°	1063.8	25.6	12.7							
90°-180°	1531.0	36.9	18.2							
0°-180°	4151.0	100.0	49.4							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1058	1058	1058	1058	1058
2.5°	1051	1056	1059	1061	1046
5°	1046	1050	1053	1055	1040
7.5°	1036	1040	1042	1043	1030
10°	1023	1026	1027	1027	1013
12.5°	1006	1008	1008	1006	991
15°	985	987	987	982	965
17.5°	961	965	963	956	938
20°	936	940	937	929	909
22.5°	909	913	909	899	880
25°	881	886	880	868	850
27.5°	852	856	850	838	820
30°	820	825	818	806	788
32.5°	787	792	784	770	752
35°	753	757	748	732	716
37.5°	718	721	711	695	681
40°	683	686	674	661	646
42.5°	647	650	637	625	612
45°	610	614	602	590	578
47.5°	574	577	567	556	544
50°	537	540	532	521	509
52.5°	500	503	497	485	473
55°	463	466	462	448	435
57.5°	426	428	427	411	398
60°	389	390	390	373	360
62.5°	350	352	353	335	322
65°	312	314	314	296	283
67.5°	273	275	274	258	245
70°	234	237	235	219	208
72.5°	196	198	195	182	172
75°	159	161	157	146	138
77.5°	123	125	121	112	106
80°	90	91	87	81	77
82.5°	60	61	58	53	51
85°	35	36	33	30	29
87.5°	14	15	14	13	13
90°	0	3	3	3	3
92.5°	4	7	7	7	7
95°	15	18	17	17	17
97.5°	29	32	29	29	28
100°	45	49	44	42	42
102.5°	65	68	61	57	56
105°	85	89	81	75	72
107.5°	107	111	103	93	90
110°	129	134	125	113	109



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	152	157	149	134	128
115°	175	180	173	156	149
117.5°	198	204	198	179	171
120°	221	227	223	202	194
122.5°	244	250	247	226	218
125°	266	273	271	251	243
127.5°	289	296	294	276	268
130°	311	318	318	301	294
132.5°	333	341	341	326	320
135°	355	363	364	351	346
137.5°	377	385	387	376	371
140°	399	407	409	401	397
142.5°	420	427	431	425	422
145°	440	449	453	448	445
147.5°	461	470	474	469	468
150°	481	490	495	490	488
152.5°	500	509	514	512	509
155°	518	526	532	531	528
157.5°	535	542	548	549	545
160°	551	558	562	565	560
162.5°	566	571	575	579	574
165°	580	585	587	591	587
167.5°	592	597	599	602	598
170°	603	607	608	612	607
172.5°	611	615	616	619	614
175°	617	621	621	624	618
177.5°	620	624	624	627	620
180°	625	625	625	625	625

(END OF REPORT)