

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: 01278

Luminaire Tested: **TTMW-40**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: 01278  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: TTMW-40  
Description: FAIL-SAFE FORMED STEEL HOUSING  
WHITE ENAMEL REFLECTOR  
WHITE TRANSLUCENT PLASTIC ENCLOSURE  
Light Source: -  
Ballast/Driver: -

**Summary**

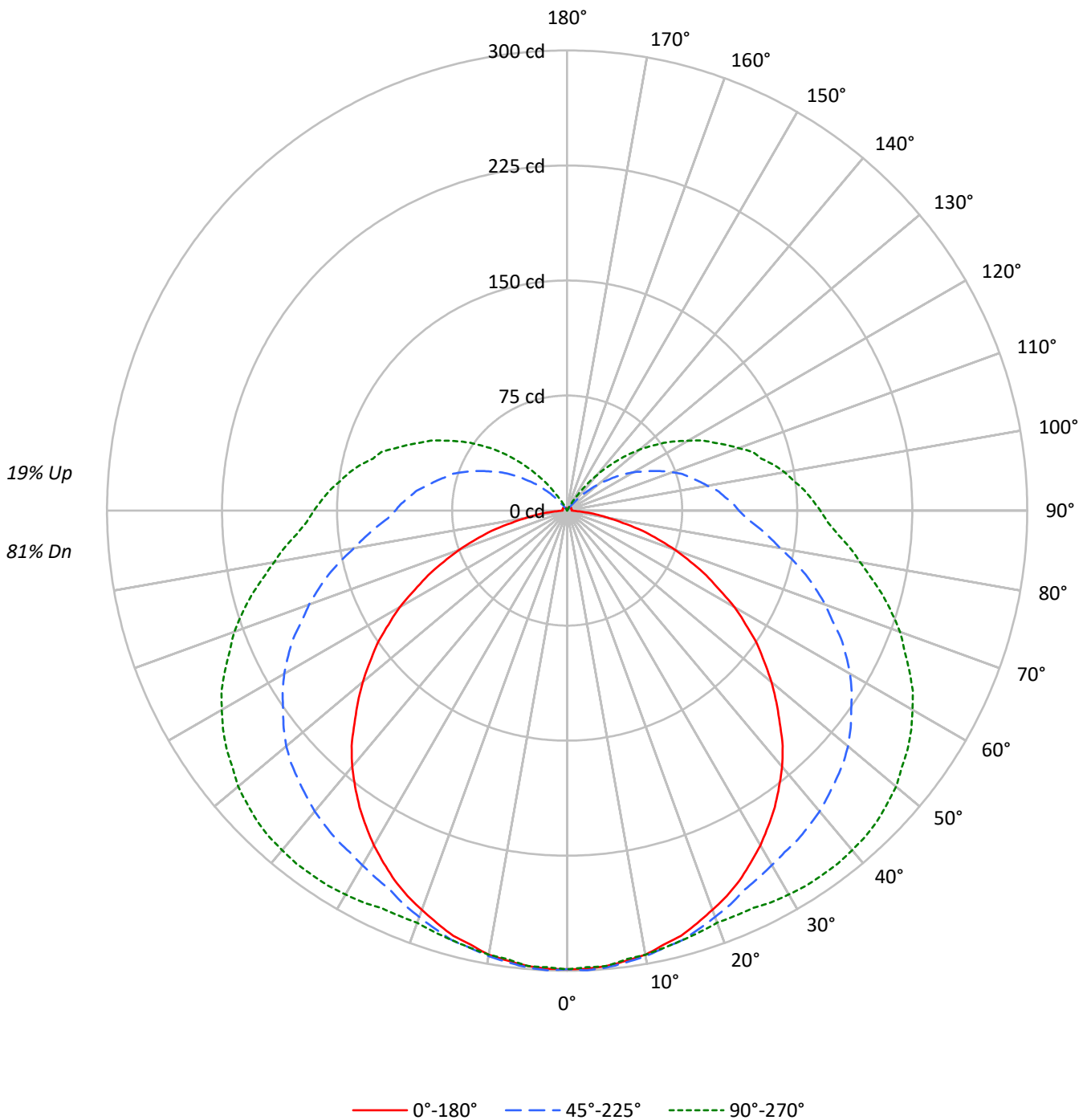
Lumens per Lamp: 3150 (1 lamp)  
Luminaire Lumens: 1539.9 lumens  
Efficiency: 48.9%  
Efficacy: 31.4 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.49 / 1.56  
Luminous Opening: Rectangular w/ Sides (W: 0.44' x L: 2.19' x H: 0.34')  
CIE Type: Semi-Direct

Input Watts (W): 49  
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	56	56	56	56	54	54	54	54	49	49	49	45	45	45	41	41	41	40
1	49	46	44	41	47	44	42	40	40	39	37	37	35	34	34	32	31	30
2	44	39	35	32	42	38	34	31	34	31	29	31	29	27	29	27	25	23
3	40	34	30	26	38	33	28	25	30	26	23	27	24	22	25	22	20	19
4	36	30	25	21	34	29	24	21	26	22	20	24	21	18	22	19	17	16
5	33	26	22	18	31	25	21	18	23	19	17	21	18	16	19	17	15	13
6	30	24	19	16	29	23	18	15	21	17	14	19	16	13	17	15	13	11
7	28	21	17	14	27	20	16	13	19	15	12	17	14	12	16	13	11	10
8	26	19	15	12	25	19	14	12	17	14	11	16	13	10	15	12	10	9
9	24	18	13	11	23	17	13	10	16	12	10	14	11	9	13	11	9	8
10	23	16	12	10	22	16	12	9	14	11	9	13	10	8	12	10	8	7

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

	0°	45°	90°
0°	3340	3340	3340
5°	3297	3171	3130
10°	3246	2999	2935
15°	3186	2852	2778
20°	3117	2706	2654
25°	3057	2576	2591
30°	2983	2498	2578
35°	2903	2448	2566
40°	2813	2407	2557
45°	2680	2366	2549
50°	2552	2331	2533
55°	2407	2272	2509
60°	2218	2227	2484
65°	1983	2163	2447
70°	1717	2086	2416
75°	1394	2015	2367
80°	924	1921	2319
85°	462	1885	2307



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	28.3	1.8	0.9	0°	299	299	299	299	299	
10°-20°	81.6	5.3	2.6	5°	298	299	299	298	298	28
20°-30°	127.2	8.3	4.0	15°	287	289	290	290	290	81
30°-40°	164.3	10.7	5.2	25°	266	269	273	282	286	122
40°-50°	188.2	12.2	6.0	35°	236	241	262	283	290	148
50°-60°	195.5	12.7	6.2	45°	196	209	248	276	286	152
60°-70°	184.4	12.0	5.9	55°	151	177	226	260	271	134
70°-80°	156.9	10.2	5.0	65°	100	142	197	234	246	99
80°-90°	123.4	8.0	3.9	75°	51	103	161	200	213	53
90°-100°	100.6	6.5	3.2	85°	10	65	125	164	177	12
100°-110°	79.5	5.2	2.5	90°	3	54	112	151	165	2
110°-120°	55.7	3.6	1.8	95°	3	46	103	141	155	2
120°-130°	33.8	2.2	1.1	105°	3	30	83	120	131	3
130°-140°	15.9	1.0	0.5	115°	3	15	61	94	105	3
140°-150°	4.0	0.3	0.1	125°	3	4	38	68	77	3
150°-160°	0.4	0.0	0.0	135°	3	2	16	38	46	2
160°-170°	0.2	0.0	0.0	145°	2	2	1	10	15	1
170°-180°	0.1	0.0	0.0	155°	2	1	1	0	0	1
0°-30°	237.2	15.4	7.5	165°	1	1	1	0	0	0
0°-40°	401.5	26.1	12.7	175°	1	1	1	0	0	0
0°-60°	785.2	51.0	24.9	180°	1	1	1	0	0	
0°-90°	1249.9	81.2	39.7							
90°-120°	235.8	15.3	7.5							
90°-150°	289.4	18.8	9.2							
90°-180°	290.0	18.8	9.2							
0°-180°	1539.9	100.0	48.9							



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	299	299	299	299	299
2.5°	299	300	300	299	298
5°	298	299	299	298	298
7.5°	296	297	297	296	295
10°	294	295	295	294	294
12.5°	290	291	292	292	292
15°	287	289	290	290	290
17.5°	282	284	286	287	288
20°	277	279	282	285	286
22.5°	272	274	278	283	286
25°	266	269	273	282	286
27.5°	259	262	270	282	288
30°	252	255	267	283	289
32.5°	244	249	264	283	290
35°	236	241	262	283	290
37.5°	227	233	259	282	290
40°	218	225	256	281	289
42.5°	208	217	252	279	288
45°	196	209	248	276	286
47.5°	185	200	244	273	283
50°	174	193	239	269	280
52.5°	162	185	233	265	275
55°	151	177	226	260	271
57.5°	138	169	220	254	266
60°	126	160	213	248	260
62.5°	112	151	205	241	254
65°	100	142	197	234	246
67.5°	87	132	187	226	238
70°	75	122	179	217	231
72.5°	62	112	170	209	222
75°	51	103	161	200	213
77.5°	37	92	151	190	203
80°	27	83	141	181	194
82.5°	19	75	133	173	186
85°	10	65	125	164	177
87.5°	5	59	117	157	170
90°	3	54	112	151	165
92.5°	3	49	108	146	160
95°	3	46	103	141	155
97.5°	3	42	99	136	149
100°	3	38	93	131	144
102.5°	3	33	88	126	138
105°	3	30	83	120	131
107.5°	3	26	79	114	127
110°	3	22	73	107	119



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	3	18	67	101	112
115°	3	15	61	94	105
117.5°	3	11	55	87	99
120°	3	8	50	81	91
122.5°	3	6	44	74	84
125°	3	4	38	68	77
127.5°	3	3	32	60	69
130°	3	3	27	53	62
132.5°	3	3	21	46	54
135°	3	2	16	38	46
137.5°	3	2	11	31	38
140°	2	2	6	23	30
142.5°	2	2	4	17	23
145°	2	2	1	10	15
147.5°	2	2	1	5	9
150°	2	1	1	2	4
152.5°	2	1	1	0	0
155°	2	1	1	0	0
157.5°	2	1	1	0	0
160°	2	1	1	0	0
162.5°	2	1	1	0	0
165°	1	1	1	0	0
167.5°	1	1	1	0	0
170°	1	1	1	0	0
172.5°	1	1	1	0	0
175°	1	1	1	0	0
177.5°	1	1	1	0	0
180°	1	1	1	0	0

(END OF REPORT)