

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: 766612

Luminaire Tested: **MHJC-175xxxx**

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: 766612  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: MHJC-175xxxx  
Description: FAIL- SAFE GARAGE LIGHT  
Light Source: #013 - 175W MH CL BU MED 14000 LUMENS  
Ballast/Driver: -

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

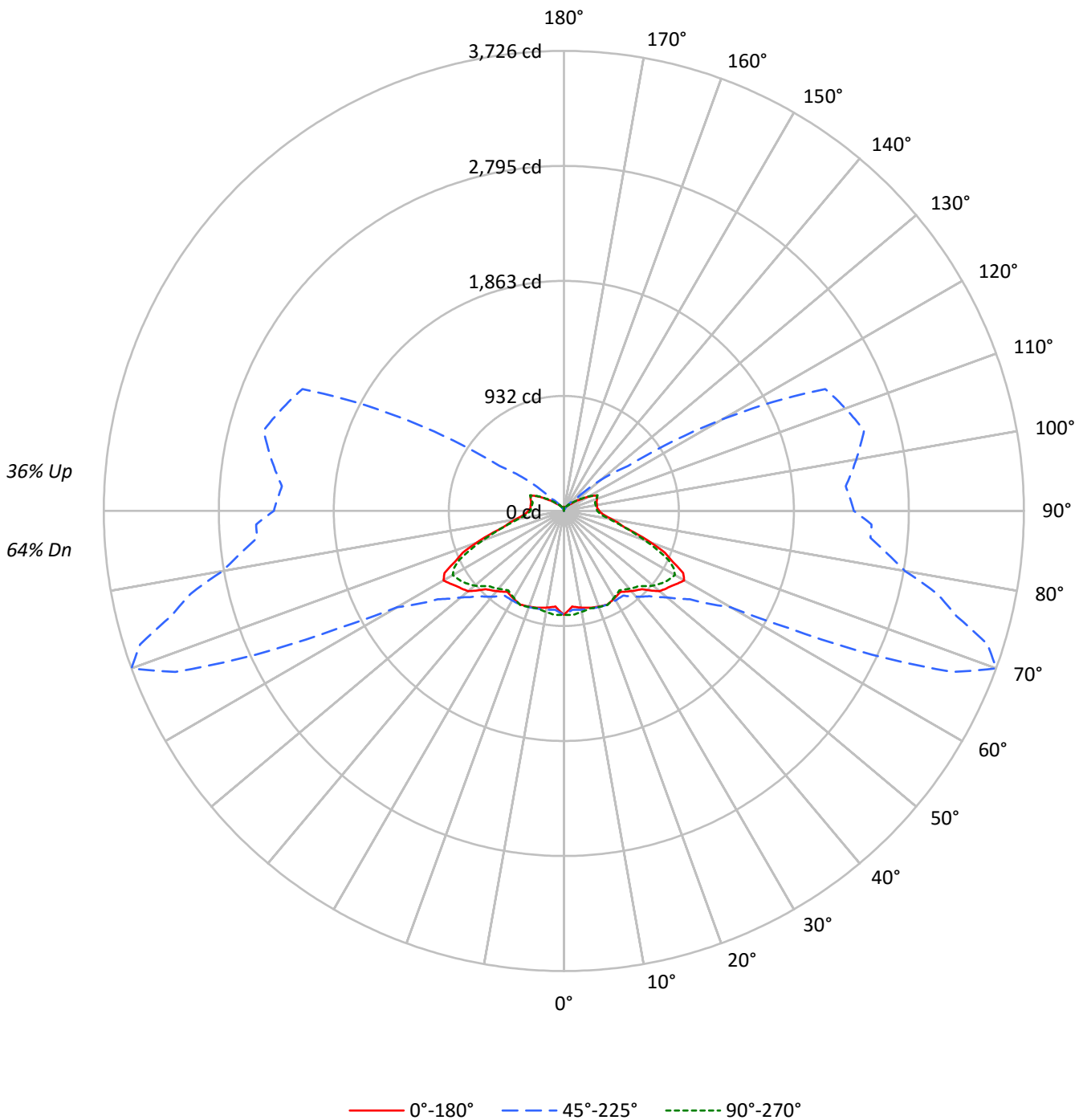
**Summary**

Lumens per Lamp: 14000 (1 lamp)  
Luminaire Lumens: 11716.7 lumens  
Efficiency: 83.7%  
Efficacy: 67.0 lumens/watt  
Spacing Criteria (0/90/45): 1.49 / 1.45 / 2.23  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Semi-Direct

Input Watts (W): 175  
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	92	92	92	92	87	87	87	87	76	76	76	67	67	67	58	58	58	54
1	79	73	68	63	73	68	63	59	59	55	51	50	47	45	43	40	38	34
2	70	60	53	47	64	56	49	44	48	43	38	41	37	33	34	31	28	24
3	62	51	43	36	57	48	40	34	41	35	29	34	29	25	28	24	21	18
4	56	44	36	29	52	41	33	27	35	29	24	30	24	20	24	20	17	14
5	51	39	30	24	47	36	28	22	31	24	19	26	21	17	21	17	14	11
6	47	34	26	20	43	32	24	19	27	21	16	23	18	14	19	15	11	9
7	43	31	23	17	40	29	21	16	25	18	14	21	16	12	17	13	10	8
8	40	28	20	15	37	26	19	14	22	16	12	19	14	10	16	12	8	6
9	37	25	18	13	34	24	17	12	20	15	11	17	13	9	14	10	7	6
10	35	23	16	12	32	22	15	11	19	13	9	16	11	8	13	9	7	5

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

	0°	90°	180°
0°	Luminaire represents a point source (luminous area is zero).		
5°	No luminance values can be calculated.		
10°			
15°			
20°			
25°			
30°			
35°			
40°			
45°			
50°			
55°			
60°			
65°			
70°			
75°			
80°			
85°			



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	77.7	0.7	0.6	0°	841	841	841	841	841	
10°-20°	231.7	2.0	1.7	5°	777	804	844	804	777	76
20°-30°	380.2	3.2	2.7	15°	812	819	817	819	812	229
30°-40°	526.9	4.5	3.8	25°	836	837	839	837	836	380
40°-50°	723.6	6.2	5.2	35°	799	836	784	836	799	523
50°-60°	1006.8	8.6	7.2	45°	895	976	861	976	895	719
60°-70°	1583.4	13.5	11.3	55°	1061	1245	1002	1245	1061	956
70°-80°	1614.9	13.8	11.5	65°	972	2754	933	2754	972	962
80°-90°	1382.0	11.8	9.9	75°	506	3293	506	3293	506	569
90°-100°	1341.0	11.4	9.6	85°	318	2492	299	2492	318	278
100°-110°	1305.1	11.1	9.3	90°	288	2349	271	2349	288	158
110°-120°	957.6	8.2	6.8	95°	271	2292	264	2292	271	225
120°-130°	410.7	3.5	2.9	105°	274	2518	261	2518	274	295
130°-140°	107.4	0.9	0.8	115°	298	2336	301	2336	298	256
140°-150°	37.0	0.3	0.3	125°	160	636	173	636	160	157
150°-160°	14.5	0.1	0.1	135°	81	141	84	141	81	73
160°-170°	6.6	0.1	0.0	145°	54	56	55	56	54	34
170°-180°	1.1	0.0	0.0	155°	29	23	29	23	29	16
0°-30°	689.6	5.9	4.9	165°	24	17	24	17	24	8
0°-40°	1216.6	10.4	8.7	175°	34	24	32	24	34	1
0°-60°	2946.9	25.2	21.0	180°	0	0	0	0	0	
0°-90°	7527.2	64.2	53.8							
90°-120°	3603.7	30.8	25.7							
90°-150°	4158.9	35.5	29.7							
90°-180°	4181.0	35.7	29.9							
0°-180°	11716.7	100.0	83.7							



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	841	841	841	841	841	841	841	841	841	841	841
5°	777	774	785	790	799	804	815	836	841	848	844
15°	812	806	802	807	811	819	816	811	818	820	817
25°	836	833	837	833	827	837	831	828	836	846	839
35°	799	799	804	807	819	836	809	793	795	784	784
45°	895	906	901	922	964	976	938	882	853	859	861
50°	1011	1019	1004	1026	1080	1088	1040	969	932	938	942
55°	1061	1066	1060	1090	1158	1245	1113	1062	1012	1012	1002
60°	1125	1173	1197	1340	1422	1557	1392	1302	1113	1142	1039
62.5°	1090	1205	1228	1561	1792	2051	1716	1536	1108	1093	1002
65°	972	1147	1137	1716	2169	2754	2073	1717	1071	1145	933
67.5°	886	1050	1027	1725	2473	3406	2312	1725	975	1047	817
70°	755	939	940	1692	2531	3726	2404	1684	858	933	700
72.5°	621	820	826	1603	2454	3598	2368	1604	744	839	594
75°	506	705	712	1487	2343	3293	2264	1524	663	756	506
77.5°	451	618	623	1388	2226	3096	2199	1447	610	687	431
80°	399	563	579	1318	2178	2807	2171	1372	563	632	373
82.5°	353	515	553	1274	2158	2641	2170	1297	527	576	328
85°	318	470	540	1241	2182	2492	2157	1237	514	530	299
87.5°	299	438	539	1218	2239	2495	2140	1209	528	494	284
90°	288	409	543	1187	2317	2349	2042	1186	542	453	271
95°	271	357	579	1141	2426	2292	2141	1162	578	377	264
105°	274	300	807	1040	2561	2518	2329	996	738	303	261
115°	298	323	817	888	1979	2336	1888	879	815	351	301
125°	160	177	195	232	393	636	413	224	203	173	173
135°	81	85	90	102	124	141	121	103	91	85	84
145°	54	55	54	50	49	56	50	50	54	53	55
155°	29	30	28	25	24	23	24	27	28	29	29
165°	24	23	21	19	17	17	18	19	22	23	24
175°	34	31	29	24	24	24	24	25	29	33	32
180°	0	0	0	0	0	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	841	841	841	841	841	841	841	841	841	841
5°	848	841	836	815	804	799	790	785	774	777
15°	820	818	811	816	819	811	807	802	806	812
25°	846	836	828	831	837	827	833	837	833	836
35°	784	795	793	809	836	819	807	804	799	799
45°	859	853	882	938	976	964	922	901	906	895
50°	938	932	969	1040	1088	1080	1026	1004	1019	1011
55°	1012	1012	1062	1113	1245	1158	1090	1060	1066	1061
60°	1142	1113	1302	1392	1557	1422	1340	1197	1173	1125
62.5°	1093	1108	1536	1716	2051	1792	1561	1228	1205	1090
65°	1145	1071	1717	2073	2754	2169	1716	1137	1147	972
67.5°	1047	975	1725	2312	3406	2473	1725	1027	1050	886
70°	933	858	1684	2404	3726	2531	1692	940	939	755
72.5°	839	744	1604	2368	3598	2454	1603	826	820	621
75°	756	663	1524	2264	3293	2343	1487	712	705	506
77.5°	687	610	1447	2199	3096	2226	1388	623	618	451
80°	632	563	1372	2171	2807	2178	1318	579	563	399
82.5°	576	527	1297	2170	2641	2158	1274	553	515	353
85°	530	514	1237	2157	2492	2182	1241	540	470	318
87.5°	494	528	1209	2140	2495	2239	1218	539	438	299
90°	453	542	1186	2042	2349	2317	1187	543	409	288
95°	377	578	1162	2141	2292	2426	1141	579	357	271
105°	303	738	996	2329	2518	2561	1040	807	300	274
115°	351	815	879	1888	2336	1979	888	817	323	298
125°	173	203	224	413	636	393	232	195	177	160
135°	85	91	103	121	141	124	102	90	85	81
145°	53	54	50	50	56	49	50	54	55	54
155°	29	28	27	24	23	24	25	28	30	29
165°	23	22	19	18	17	17	19	21	23	24
175°	33	29	25	24	24	24	24	29	31	34
180°	0	0	0	0	0	0	0	0	0	0

(END OF REPORT)