

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: P312857

Luminaire Tested: **22FCZ2-39HE-UNV-L83050-CP187-W2A-U-4000K**

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: P312857  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-33)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 22FCZ2-39HE-UNV-L83050-CP187-W2A-U-4000K  
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET  
Light Source: (168) 4000K TUNABLE CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC 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: N/A  
Luminaire Lumens: 3485.0 lumens  
Efficiency: N/A  
Efficacy: 105.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

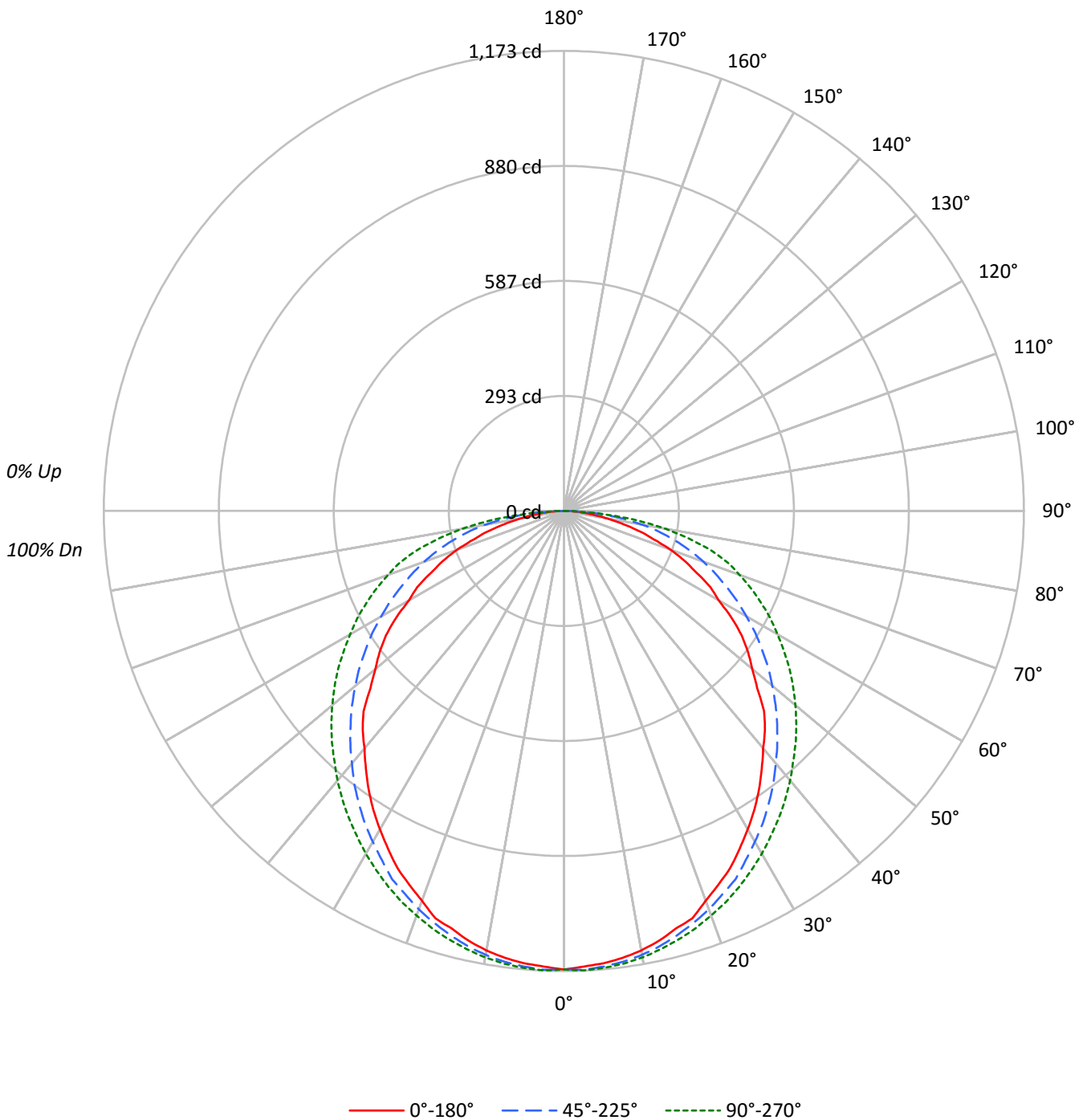
Input Watts (W): 33.1  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	98	94	105	100	96	92	96	93	90	92	89	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	51	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

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

	0°	45°	90°
0°	3146	3146	3146
5°	3127	3149	3158
10°	3108	3140	3158
15°	3071	3118	3151
20°	3028	3095	3143
25°	2981	3075	3140
30°	2913	3027	3136
35°	2849	2992	3140
40°	2777	2953	3152
45°	2748	2926	3180
50°	2626	2905	3226
55°	2598	2895	3294
60°	2451	2891	3384
65°	2379	2910	3536
70°	2283	2979	3753
75°	2082	3069	4040
80°	1784	3180	4083
85°	1442	3038	3501



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.6	3.2
10°-20°	315.6	9.1
20°-30°	475.0	13.6
30°-40°	570.1	16.4
40°-50°	595.9	17.1
50°-60°	555.3	15.9
60°-70°	455.5	13.1
70°-80°	306.9	8.8
80°-90°	100.0	2.9
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°	901.3	25.9
0°-40°	1471.4	42.2
0°-60°	2622.6	75.3
0°-90°	3485.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3485.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1169	1169	1169	1169	1169	
5°	1158	1161	1166	1168	1169	110
15°	1102	1109	1119	1129	1131	312
25°	1004	1011	1036	1051	1058	462
35°	867	879	911	942	956	542
45°	722	727	769	816	836	552
55°	554	564	617	676	702	491
65°	374	390	457	524	555	372
75°	200	222	295	362	389	210
85°	47	67	98	115	113	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1169.2	1169.2	1169.2	1169.2	1169.2
2.5°	1162.6	1165.9	1170.9	1172.6	1172.6
5°	1157.6	1160.9	1165.9	1167.6	1169.2
7.5°	1149.2	1152.6	1159.2	1162.6	1164.2
10°	1137.6	1140.9	1149.2	1154.2	1155.9
12.5°	1122.5	1125.9	1135.9	1142.6	1144.2
15°	1102.5	1109.2	1119.2	1129.2	1130.9
17.5°	1089.2	1087.5	1100.9	1112.5	1115.9
20°	1057.5	1065.8	1080.8	1094.2	1097.5
22.5°	1030.8	1037.5	1057.5	1072.5	1079.2
25°	1004.1	1010.8	1035.8	1050.8	1057.5
27.5°	970.8	980.8	1004.1	1025.8	1034.1
30°	937.4	947.4	974.1	999.1	1009.1
32.5°	904.0	915.7	944.1	970.8	982.4
35°	867.3	879.0	910.7	942.4	955.7
37.5°	829.0	844.0	877.4	912.4	927.4
40°	790.6	805.6	840.7	880.7	897.4
42.5°	758.9	765.6	805.6	849.0	865.7
45°	722.2	727.2	768.9	815.6	835.7
47.5°	668.9	687.2	732.2	783.9	804.0
50°	627.2	647.2	693.9	748.9	770.6
52.5°	592.1	605.5	657.2	712.2	737.2
55°	553.8	563.8	617.1	675.5	702.2
57.5°	507.1	525.4	578.8	638.8	665.5
60°	455.4	478.7	537.1	602.1	628.8
62.5°	422.0	435.3	498.7	563.8	593.8
65°	373.6	390.3	457.0	523.7	555.4
67.5°	333.6	350.3	418.7	485.4	517.1
70°	290.2	306.9	378.6	445.3	477.0
72.5°	240.2	263.5	338.6	405.3	438.7
75°	200.2	221.8	295.2	361.9	388.6
77.5°	155.1	183.5	251.9	306.9	326.9
80°	115.1	143.4	205.2	245.2	263.5
82.5°	78.4	106.8	153.5	183.5	193.5
85°	46.7	66.7	98.4	115.1	113.4
87.5°	21.7	28.4	40.0	40.0	38.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)