

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: P313008

Luminaire Tested: **22FCZ2-39HE-UNV-L83050-S-CP187-W2A-U-4500K**

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: P313008  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)  
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-S-CP187-W2A-U-4500K  
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET  
Light Source: (168) 4500K 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: 3710.0 lumens  
Efficiency: N/A  
Efficacy: 109.1 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

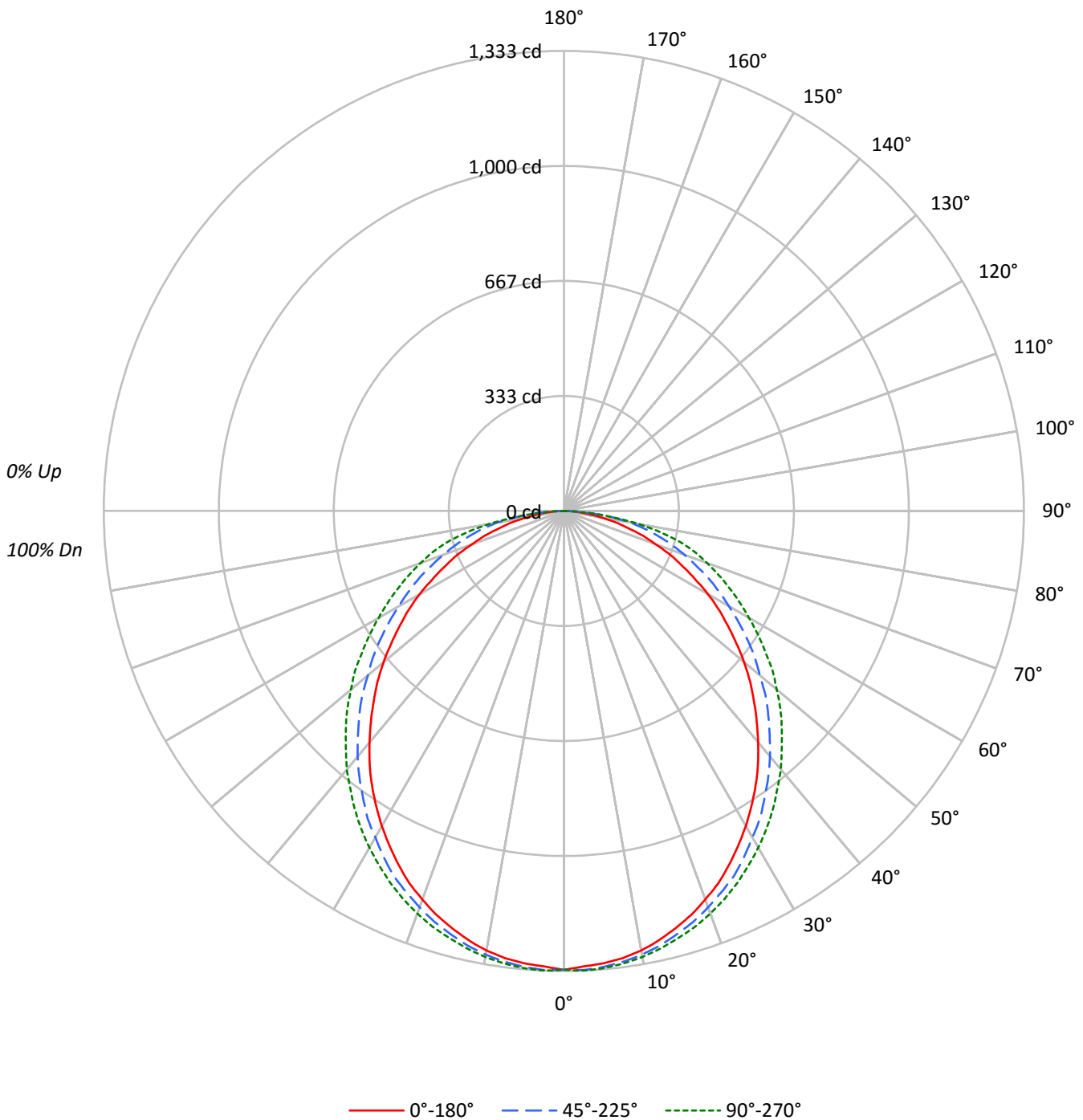
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

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

	0°	45°	90°
0°	3577	3577	3577
5°	3554	3582	3591
10°	3533	3566	3585
15°	3487	3535	3568
20°	3430	3500	3554
25°	3361	3464	3531
30°	3276	3394	3502
35°	3185	3332	3469
40°	3077	3265	3436
45°	2965	3188	3399
50°	2855	3102	3370
55°	2721	3045	3346
60°	2599	2972	3335
65°	2425	2954	3373
70°	2234	2928	3473
75°	2016	2969	3654
80°	1743	3058	3434
85°	1442	2566	2566



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.7	3.4
10°-20°	357.8	9.6
20°-30°	535.3	14.4
30°-40°	634.0	17.1
40°-50°	646.1	17.4
50°-60°	579.1	15.6
60°-70°	453.4	12.2
70°-80°	292.3	7.9
80°-90°	86.4	2.3
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°	1018.8	27.5
0°-40°	1652.8	44.5
0°-60°	2877.9	77.6
0°-90°	3710.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3710.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1329	1329	1329	1329	1329	
5°	1316	1319	1326	1328	1329	125
15°	1252	1258	1269	1279	1281	353
25°	1132	1142	1167	1182	1189	521
35°	969	982	1014	1046	1056	606
45°	779	796	838	881	893	602
55°	580	599	649	694	713	520
65°	381	403	464	509	530	378
75°	194	223	286	334	351	208
85°	47	64	83	83	83	55
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1329.4	1329.4	1329.4	1329.4	1329.4
2.5°	1320.8	1324.2	1331.1	1332.9	1332.9
5°	1315.6	1319.0	1325.9	1327.7	1329.4
7.5°	1306.9	1308.6	1317.3	1320.8	1322.5
10°	1293.1	1296.5	1305.2	1310.4	1312.1
12.5°	1274.0	1279.2	1289.6	1296.5	1298.3
15°	1251.5	1258.4	1268.8	1279.2	1280.9
17.5°	1227.3	1234.2	1248.1	1260.2	1263.6
20°	1197.9	1206.5	1222.1	1235.9	1241.1
22.5°	1168.4	1175.3	1194.4	1211.7	1216.9
25°	1132.1	1142.5	1166.7	1182.3	1189.2
27.5°	1094.0	1106.1	1130.3	1151.1	1158.0
30°	1054.2	1066.3	1092.3	1118.2	1126.9
32.5°	1012.6	1026.5	1057.6	1083.6	1092.3
35°	969.4	981.5	1014.4	1045.5	1055.9
37.5°	924.4	934.7	972.8	1005.7	1016.1
40°	875.9	889.7	929.5	967.6	978.0
42.5°	827.4	843.0	882.8	924.4	934.7
45°	779.0	796.3	837.8	881.1	893.2
47.5°	732.2	746.1	792.8	834.3	851.7
50°	682.0	695.9	740.9	787.6	804.9
52.5°	630.1	649.1	697.6	742.6	763.4
55°	579.9	598.9	649.1	694.1	713.2
57.5°	533.1	548.7	600.7	647.4	666.4
60°	482.9	496.8	552.2	602.4	619.7
62.5°	429.3	450.1	507.2	553.9	574.7
65°	380.8	403.3	463.9	508.9	529.7
67.5°	335.8	356.6	415.4	463.9	486.4
70°	283.9	311.6	372.2	420.6	441.4
72.5°	242.3	266.6	328.9	377.4	399.9
75°	193.9	223.3	285.6	334.1	351.4
77.5°	154.1	183.5	242.3	280.4	289.1
80°	112.5	141.9	197.3	216.4	221.6
82.5°	76.2	103.9	141.9	147.1	148.9
85°	46.7	64.0	83.1	83.1	83.1
87.5°	22.5	26.0	29.4	27.7	27.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)