

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: P312859

Luminaire Tested: **22FCZ2-39HE-UNV-L83050-CP187-W2A-U-5000K**

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: P312859  
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-5000K  
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET  
Light Source: (168) 5000K 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**

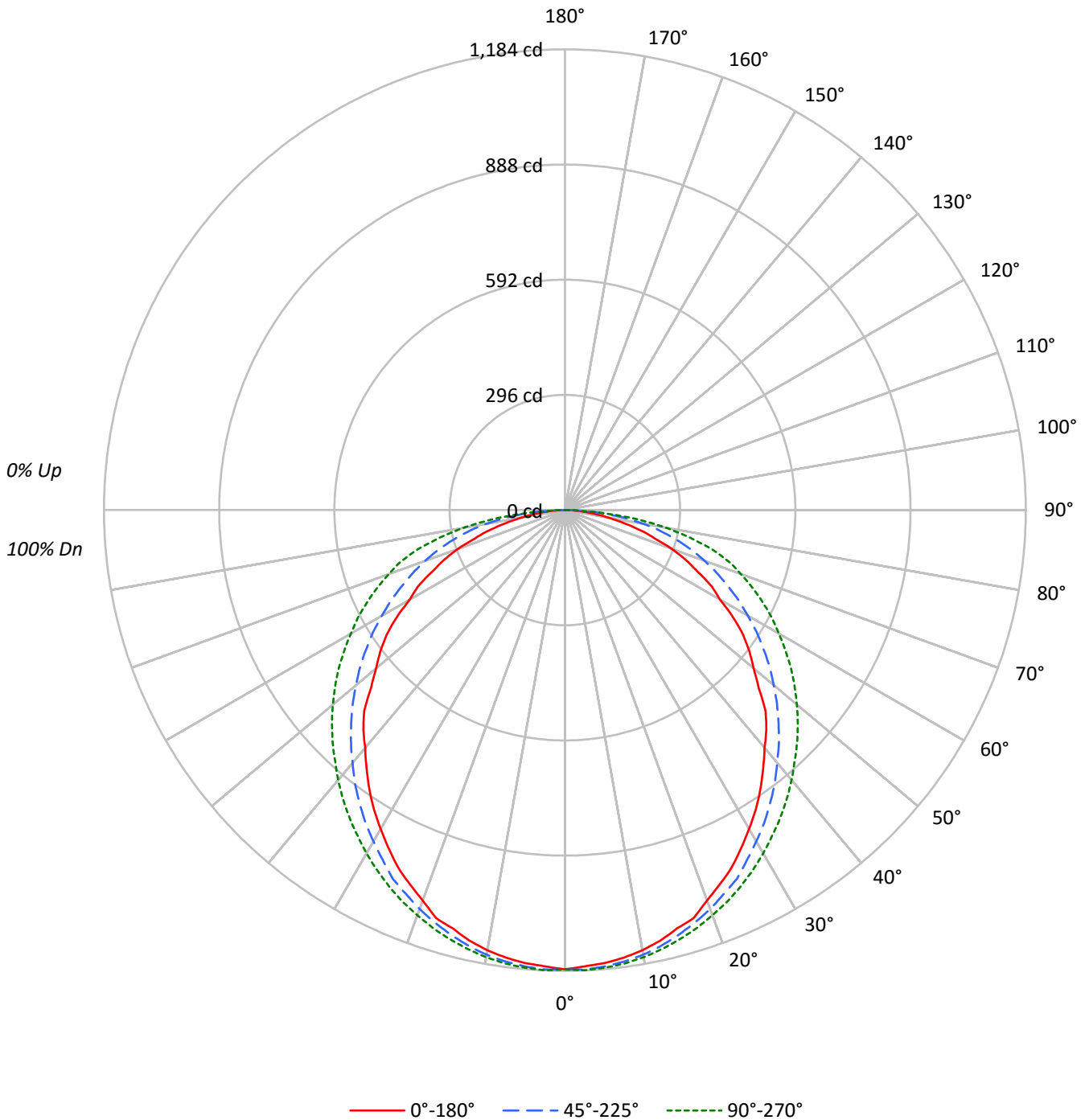
Lumens per Lamp: N/A  
Luminaire Lumens: 3518.0 lumens  
Efficiency: N/A  
Efficacy: 103.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	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°	3176	3176	3176
5°	3156	3179	3188
10°	3138	3170	3188
15°	3101	3148	3180
20°	3057	3125	3173
25°	3010	3105	3170
30°	2940	3055	3165
35°	2876	3020	3169
40°	2804	2981	3182
45°	2775	2954	3210
50°	2650	2932	3257
55°	2623	2923	3326
60°	2474	2918	3416
65°	2402	2938	3570
70°	2305	3007	3789
75°	2101	3098	4079
80°	1801	3209	4122
85°	1454	3066	3535



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.7	3.2
10°-20°	318.6	9.1
20°-30°	479.5	13.6
30°-40°	575.5	16.4
40°-50°	601.5	17.1
50°-60°	560.6	15.9
60°-70°	459.8	13.1
70°-80°	309.8	8.8
80°-90°	100.9	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°	909.8	25.9
0°-40°	1485.4	42.2
0°-60°	2647.5	75.3
0°-90°	3518.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3518.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1180	1180	1180	1180	1180	
5°	1168	1172	1177	1179	1180	111
15°	1113	1120	1130	1140	1142	315
25°	1014	1020	1046	1061	1068	466
35°	876	887	919	951	965	547
45°	729	734	776	823	844	557
55°	559	569	623	682	709	495
65°	377	394	461	529	561	375
75°	202	224	298	365	392	212
85°	47	67	99	116	114	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1180.3	1180.3	1180.3	<i>1180.3</i>	1180.3
2.5°	<i>1173.6</i>	<i>1177.0</i>	<i>1182.0</i>	<i>1183.7</i>	<i>1183.7</i>
5°	1168.5	1171.9	1177.0	<i>1178.6</i>	1180.3
7.5°	1160.1	1163.5	1170.2	<i>1173.6</i>	1175.3
10°	1148.3	1151.7	1160.1	<i>1165.2</i>	1166.8
12.5°	1133.2	1136.5	1146.6	<i>1153.4</i>	1155.1
15°	1113.0	1119.7	1129.8	<i>1139.9</i>	1141.6
17.5°	1099.5	1097.8	1111.3	<i>1123.1</i>	1126.4
20°	1067.5	1075.9	1091.1	<i>1104.5</i>	1107.9
22.5°	1040.6	1047.3	1067.5	<i>1082.7</i>	1089.4
25°	1013.6	1020.4	1045.6	<i>1060.8</i>	1067.5
27.5°	980.0	990.1	1013.6	<i>1035.5</i>	1043.9
30°	946.3	956.4	983.3	<i>1008.6</i>	1018.7
32.5°	912.6	924.4	953.0	<i>980.0</i>	991.7
35°	875.6	887.3	919.3	<i>951.3</i>	964.8
37.5°	836.8	852.0	885.7	<i>921.0</i>	936.2
40°	798.1	813.3	848.6	<i>889.0</i>	905.9
42.5°	766.1	772.8	813.3	<i>857.0</i>	873.9
45°	729.1	734.1	776.2	<i>823.4</i>	843.6
47.5°	675.2	693.7	739.2	<i>791.4</i>	811.6
50°	633.1	653.3	700.4	<i>756.0</i>	777.9
52.5°	597.7	611.2	663.4	<i>719.0</i>	744.2
55°	559.0	569.1	623.0	<i>681.9</i>	708.9
57.5°	511.9	530.4	584.3	<i>644.9</i>	671.8
60°	459.7	483.2	542.2	<i>607.8</i>	634.8
62.5°	426.0	439.5	503.4	<i>569.1</i>	599.4
65°	377.2	394.0	461.4	<i>528.7</i>	560.7
67.5°	336.8	353.6	422.6	<i>490.0</i>	522.0
70°	293.0	309.8	382.2	<i>449.6</i>	481.6
72.5°	242.5	266.0	341.8	<i>409.2</i>	442.8
75°	202.1	223.9	298.0	<i>365.4</i>	392.3
77.5°	156.6	185.2	254.2	<i>309.8</i>	330.0
80°	116.2	144.8	207.1	<i>247.5</i>	266.0
82.5°	79.1	107.8	154.9	<i>185.2</i>	195.3
85°	47.1	67.4	99.3	<i>116.2</i>	114.5
87.5°	21.9	28.6	40.4	<i>40.4</i>	38.7
90°	0.0	0.0	0.0	<i>0.0</i>	0.0

(END OF REPORT)