

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: P313181

Luminaire Tested: **24FCZ2-40-UNV-L83050-HRP-CP187-W2A-U-3500K**

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: P313181  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-40-UNV-L83050-HRP-CP187-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"  
POLYCARB SHEET  
Light Source: (168) 3500K 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**

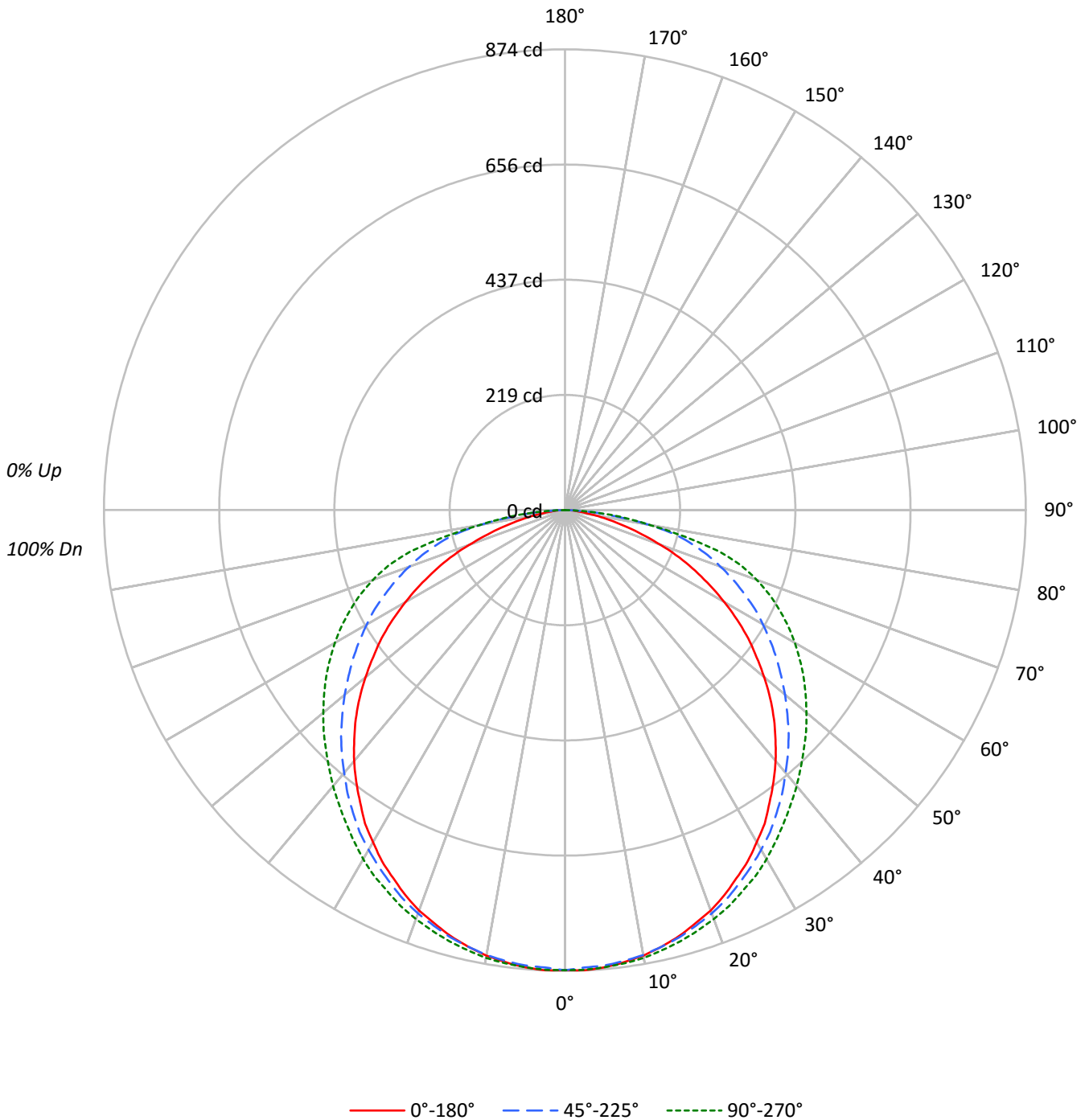
Lumens per Lamp: N/A  
Luminaire Lumens: 2690.0 lumens  
Efficiency: N/A  
Efficacy: 82.3 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 32.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	101	96	93	96	93	90	92	90	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	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	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	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

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

	0°	45°	90°
0°	1174	1174	1174
5°	1176	1171	1176
10°	1172	1171	1179
15°	1165	1169	1180
20°	1158	1166	1182
25°	1144	1160	1184
30°	1130	1157	1188
35°	1112	1151	1189
40°	1092	1143	1201
45°	1067	1142	1219
50°	1033	1141	1252
55°	996	1149	1297
60°	939	1167	1355
65°	868	1194	1430
70°	758	1236	1524
75°	614	1300	1575
80°	454	1274	1274
85°	347	939	1061



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	82.7	3.1
10°-20°	237.4	8.8
20°-30°	361.4	13.4
30°-40°	438.9	16.3
40°-50°	463.7	17.2
50°-60°	437.5	16.3
60°-70°	363.8	13.5
70°-80°	239.3	8.9
80°-90°	65.2	2.4
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°	681.5	25.3
0°-40°	1120.4	41.7
0°-60°	2021.6	75.2
0°-90°	2690.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2690.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	873	873	873	873	873	
5°	870	870	867	870	870	83
15°	837	838	839	847	847	236
25°	770	775	782	795	797	355
35°	677	685	700	718	724	424
45°	561	572	600	630	641	432
55°	425	443	490	536	553	378
65°	272	304	375	430	449	269
75°	118	172	250	296	303	127
85°	22	50	61	68	69	28
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	872.8	872.8	872.8	872.8	872.8
2.5°	873.9	872.8	868.3	872.8	872.8
5°	870.5	870.5	867.1	870.5	870.5
7.5°	864.9	864.9	862.6	867.1	867.1
10°	858.1	858.1	857.0	862.6	862.6
12.5°	848.0	849.1	848.0	854.8	854.8
15°	836.7	837.9	839.0	846.9	846.9
17.5°	822.1	824.3	826.6	835.6	836.7
20°	808.6	809.7	814.2	824.3	825.5
22.5°	790.6	793.9	799.6	809.7	813.1
25°	770.3	774.8	781.6	795.1	797.3
27.5°	751.1	754.5	763.5	778.2	782.7
30°	727.5	733.1	744.4	759.0	764.7
32.5°	705.0	710.6	724.1	739.9	744.4
35°	676.8	684.7	700.5	718.5	724.1
37.5°	649.8	657.7	676.8	697.1	703.8
40°	621.6	630.6	650.9	674.6	683.6
42.5°	591.2	603.6	626.1	652.0	662.2
45°	560.8	572.1	600.2	629.5	640.8
47.5°	528.2	541.7	572.1	607.0	620.5
50°	493.3	510.1	545.1	583.3	598.0
52.5°	458.3	477.5	516.9	559.7	575.5
55°	424.6	442.6	489.9	536.1	552.9
57.5°	387.4	409.9	461.7	511.3	528.2
60°	349.1	373.9	433.6	485.4	503.4
62.5°	310.8	339.0	406.5	458.3	477.5
65°	272.5	304.1	375.0	430.2	449.3
67.5°	235.4	270.3	345.7	400.9	420.1
70°	192.6	236.5	314.2	368.3	387.4
72.5°	153.2	203.8	283.8	334.5	351.4
75°	118.2	172.3	250.0	296.2	302.9
77.5°	86.7	140.8	215.1	230.9	232.0
80°	58.6	112.6	164.4	162.2	164.4
82.5°	38.3	84.5	103.6	116.0	117.1
85°	22.5	49.6	60.8	67.6	68.7
87.5°	11.3	16.9	21.4	22.5	24.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)