

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: P313532

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-RDP-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: P313532  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-40HE-UNV-L83050-RDP-CP187-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET  
Light Source: (336) 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**

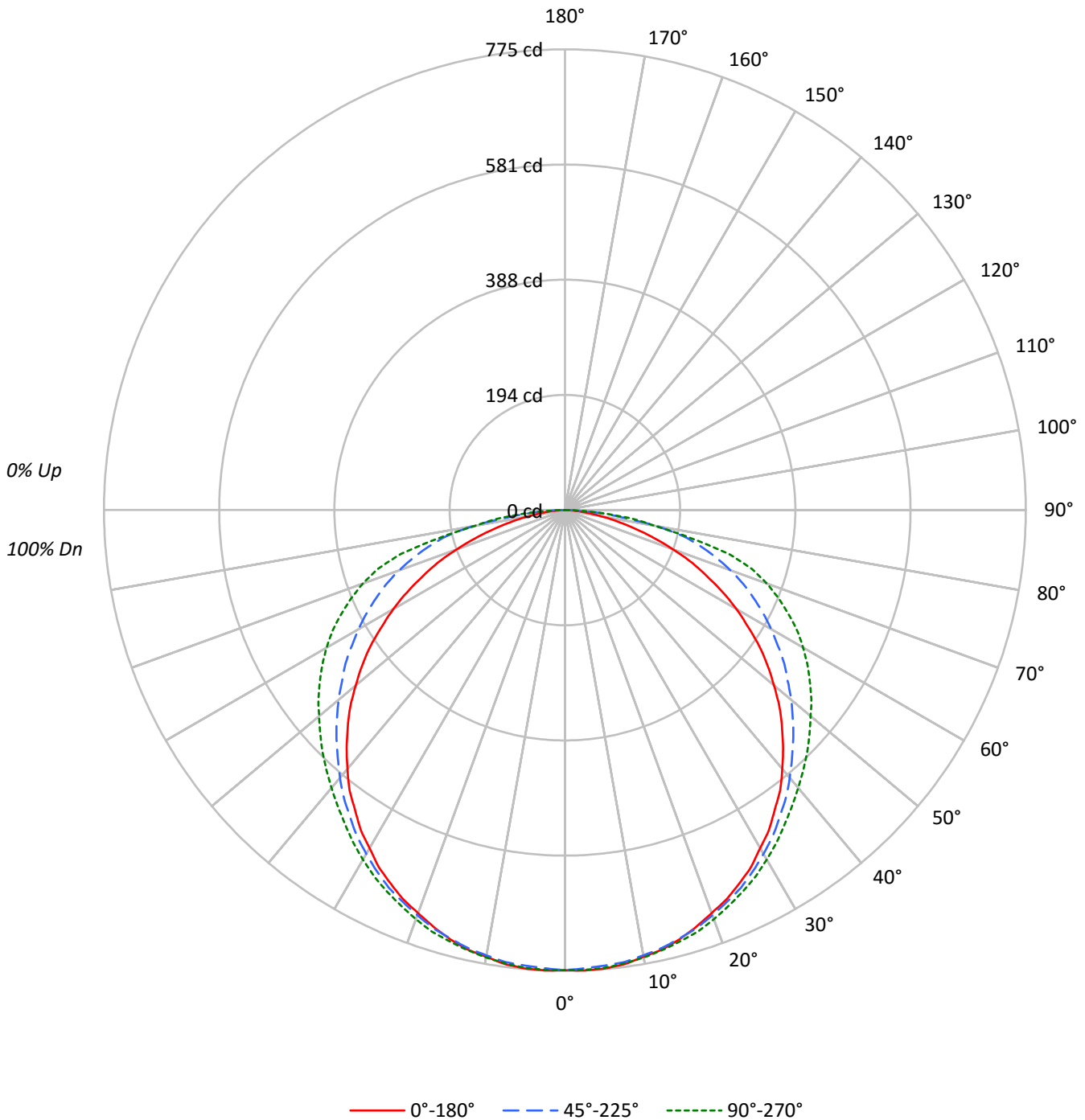
Lumens per Lamp: N/A  
Luminaire Lumens: 2461.0 lumens  
Efficiency: N/A  
Efficacy: 79.1 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
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	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	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

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

	0°	45°	90°
0°	1041	1041	1041
5°	1045	1039	1044
10°	1042	1039	1044
15°	1041	1039	1046
20°	1033	1038	1049
25°	1029	1040	1051
30°	1020	1037	1054
35°	1010	1035	1059
40°	999	1033	1072
45°	982	1034	1096
50°	961	1040	1129
55°	936	1057	1180
60°	897	1077	1245
65°	840	1115	1321
70°	764	1167	1421
75°	647	1231	1485
80°	511	1239	1201
85°	377	942	1056



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.4	3.0
10°-20°	211.3	8.6
20°-30°	323.1	13.1
30°-40°	395.0	16.0
40°-50°	421.0	17.1
50°-60°	402.5	16.4
60°-70°	341.0	13.9
70°-80°	229.2	9.3
80°-90°	64.6	2.6
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°	607.8	24.7
0°-40°	1002.8	40.7
0°-60°	1826.2	74.2
0°-90°	2461.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2461.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	774	774	774	774	774	
5°	774	773	769	773	773	74
15°	747	747	746	752	751	211
25°	693	696	701	707	708	320
35°	615	620	630	642	644	385
45°	516	525	543	566	576	398
55°	399	414	450	486	503	356
65°	264	290	350	397	415	262
75°	124	170	237	277	286	133
85°	24	50	61	66	68	30
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	773.9	773.9	773.9	773.9	773.9
2.5°	775.1	775.1	771.5	773.9	773.9
5°	773.9	772.7	769.0	772.7	772.7
7.5°	770.3	769.0	766.6	770.3	769.0
10°	762.9	762.9	760.5	764.1	764.1
12.5°	756.8	755.6	754.4	759.3	758.0
15°	747.1	747.1	745.8	751.9	750.7
17.5°	734.9	736.1	737.3	742.2	743.4
20°	721.4	723.9	725.1	732.4	732.4
22.5°	709.2	710.4	712.9	720.2	720.2
25°	693.3	695.8	700.7	706.8	708.0
27.5°	677.5	678.7	684.8	693.3	694.6
30°	656.7	660.4	667.7	677.5	678.7
32.5°	638.4	642.1	650.6	660.4	662.8
35°	615.2	620.1	629.9	642.1	644.5
37.5°	594.5	598.1	610.3	623.8	627.4
40°	568.8	576.2	588.4	604.2	610.3
42.5°	543.2	550.5	565.2	585.9	593.3
45°	516.3	524.9	543.2	566.4	576.2
47.5°	489.5	499.3	520.0	546.9	557.9
50°	459.0	471.2	496.8	527.3	539.5
52.5°	429.7	444.3	472.4	506.6	522.5
55°	399.2	413.8	450.4	485.8	502.9
57.5°	365.0	384.5	424.8	465.1	483.4
60°	333.2	351.6	400.4	444.3	462.6
62.5°	299.1	323.5	376.0	422.4	440.7
65°	263.7	290.5	350.3	396.7	415.0
67.5°	231.9	261.2	324.7	371.1	389.4
70°	194.1	230.7	296.6	343.0	361.3
72.5°	158.7	199.0	267.3	312.5	329.6
75°	124.5	169.7	236.8	277.1	285.6
77.5°	92.8	140.4	205.1	222.2	216.1
80°	65.9	112.3	159.9	151.4	155.0
82.5°	42.7	85.4	98.9	112.3	116.0
85°	24.4	50.0	61.0	65.9	68.4
87.5°	11.0	18.3	24.4	24.4	23.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)