

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: P313132

Luminaire Tested: **24FCZ2-35-UNV-L83050-HRP-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: P313132  
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: 24FCZ2-35-UNV-L83050-HRP-CP187-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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**

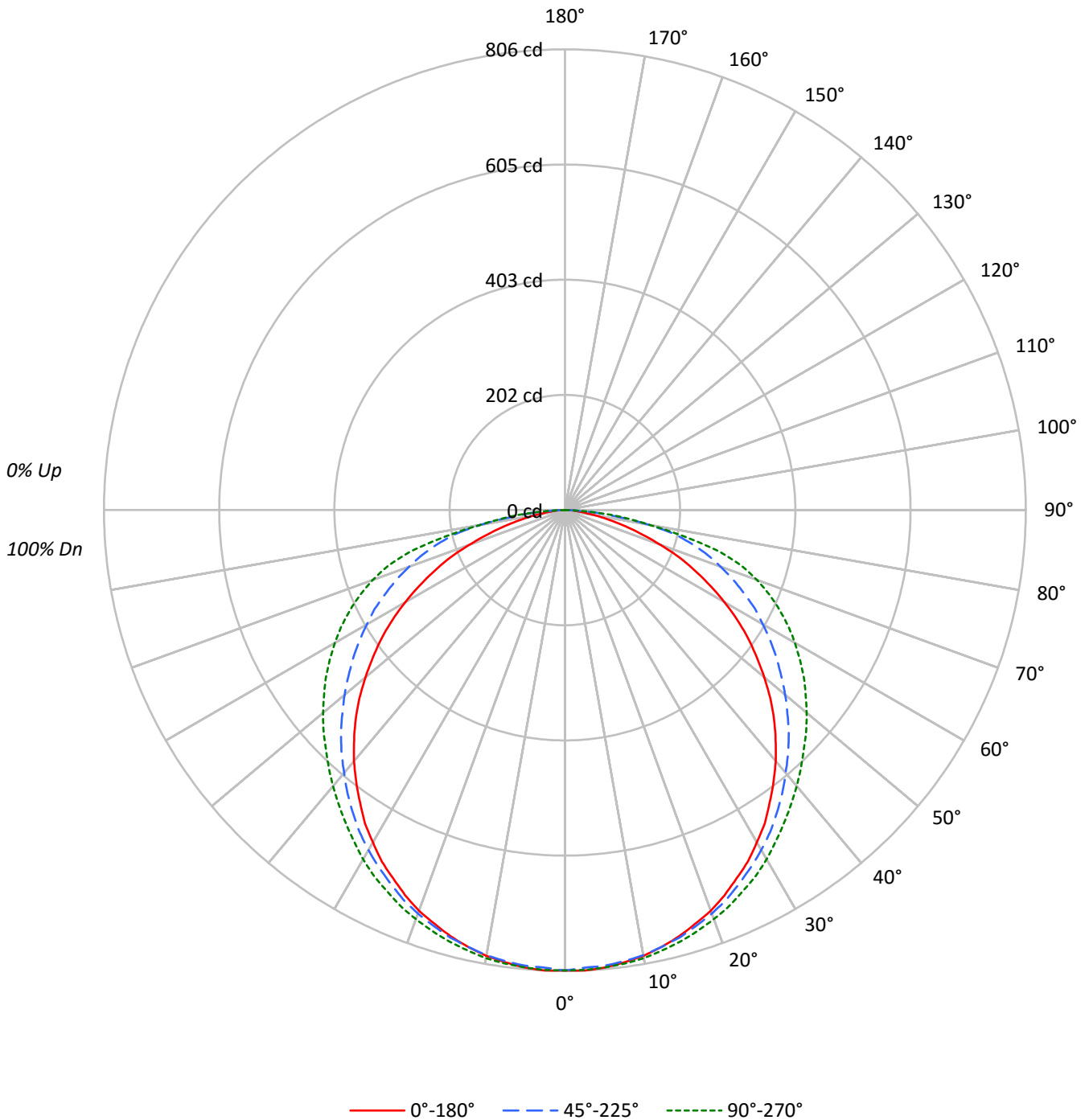
Lumens per Lamp: N/A  
Luminaire Lumens: 2482.0 lumens  
Efficiency: N/A  
Efficacy: 86.8 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 28.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	1084	1084	1084
5°	1085	1081	1085
10°	1082	1080	1087
15°	1075	1078	1088
20°	1068	1076	1090
25°	1055	1071	1092
30°	1043	1067	1096
35°	1026	1062	1097
40°	1007	1055	1108
45°	985	1054	1125
50°	953	1053	1155
55°	919	1060	1197
60°	867	1076	1250
65°	801	1102	1320
70°	699	1140	1406
75°	567	1199	1453
80°	418	1175	1175
85°	321	866	979



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	76.3	3.1
10°-20°	219.1	8.8
20°-30°	333.5	13.4
30°-40°	404.9	16.3
40°-50°	427.8	17.2
50°-60°	403.7	16.3
60°-70°	335.7	13.5
70°-80°	220.8	8.9
80°-90°	60.2	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°	628.8	25.3
0°-40°	1033.8	41.7
0°-60°	1865.3	75.2
0°-90°	2482.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2482.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	805	805	805	805	805	
5°	803	803	800	803	803	76
15°	772	773	774	781	781	218
25°	711	715	721	734	736	328
35°	624	632	646	663	668	391
45°	518	528	554	581	591	398
55°	392	408	452	495	510	349
65°	252	281	346	397	415	249
75°	109	159	231	273	280	118
85°	21	46	56	62	63	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	805.3	805.3	805.3	805.3	805.3
2.5°	806.3	805.3	801.1	805.3	805.3
5°	803.2	803.2	800.1	803.2	803.2
7.5°	798.0	798.0	795.9	800.1	800.1
10°	791.8	791.8	790.7	795.9	795.9
12.5°	782.4	783.5	782.4	788.7	788.7
15°	772.0	773.1	774.1	781.4	781.4
17.5°	758.5	760.6	762.7	771.0	772.0
20°	746.1	747.1	751.3	760.6	761.6
22.5°	729.4	732.6	737.7	747.1	750.2
25°	710.7	714.9	721.1	733.6	735.7
27.5°	693.1	696.2	704.5	718.0	722.2
30°	671.2	676.4	686.8	700.3	705.5
32.5°	650.5	655.7	668.1	682.7	686.8
35°	624.5	631.8	646.3	662.9	668.1
37.5°	599.5	606.8	624.5	643.2	649.4
40°	573.6	581.9	600.6	622.4	630.7
42.5°	545.5	556.9	577.7	601.6	611.0
45°	517.5	527.9	553.8	580.8	591.2
47.5°	487.3	499.8	527.9	560.1	572.5
50°	455.1	470.7	502.9	538.2	551.8
52.5°	422.9	440.6	476.9	516.4	531.0
55°	391.7	408.4	452.0	494.6	510.2
57.5°	357.4	378.2	426.0	471.7	487.3
60°	322.1	345.0	400.0	447.8	464.5
62.5°	286.8	312.8	375.1	422.9	440.6
65°	251.5	280.6	346.0	396.9	414.6
67.5°	217.2	249.4	319.0	369.9	387.6
70°	177.7	218.2	289.9	339.8	357.4
72.5°	141.3	188.1	261.8	308.6	324.2
75°	109.1	159.0	230.7	273.3	279.5
77.5°	80.0	129.9	198.5	213.0	214.1
80°	54.0	103.9	151.7	149.6	151.7
82.5°	35.3	77.9	95.6	107.0	108.1
85°	20.8	45.7	56.1	62.3	63.4
87.5°	10.4	15.6	19.7	20.8	22.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)