

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: P313606

Luminaire Tested: **24FCZ2-45-UNV-L83050-RDP-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: P313606
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: 24FCZ2-45-UNV-L83050-RDP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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: 2608.0 lumens
Efficiency: N/A
Efficacy: 69.4 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

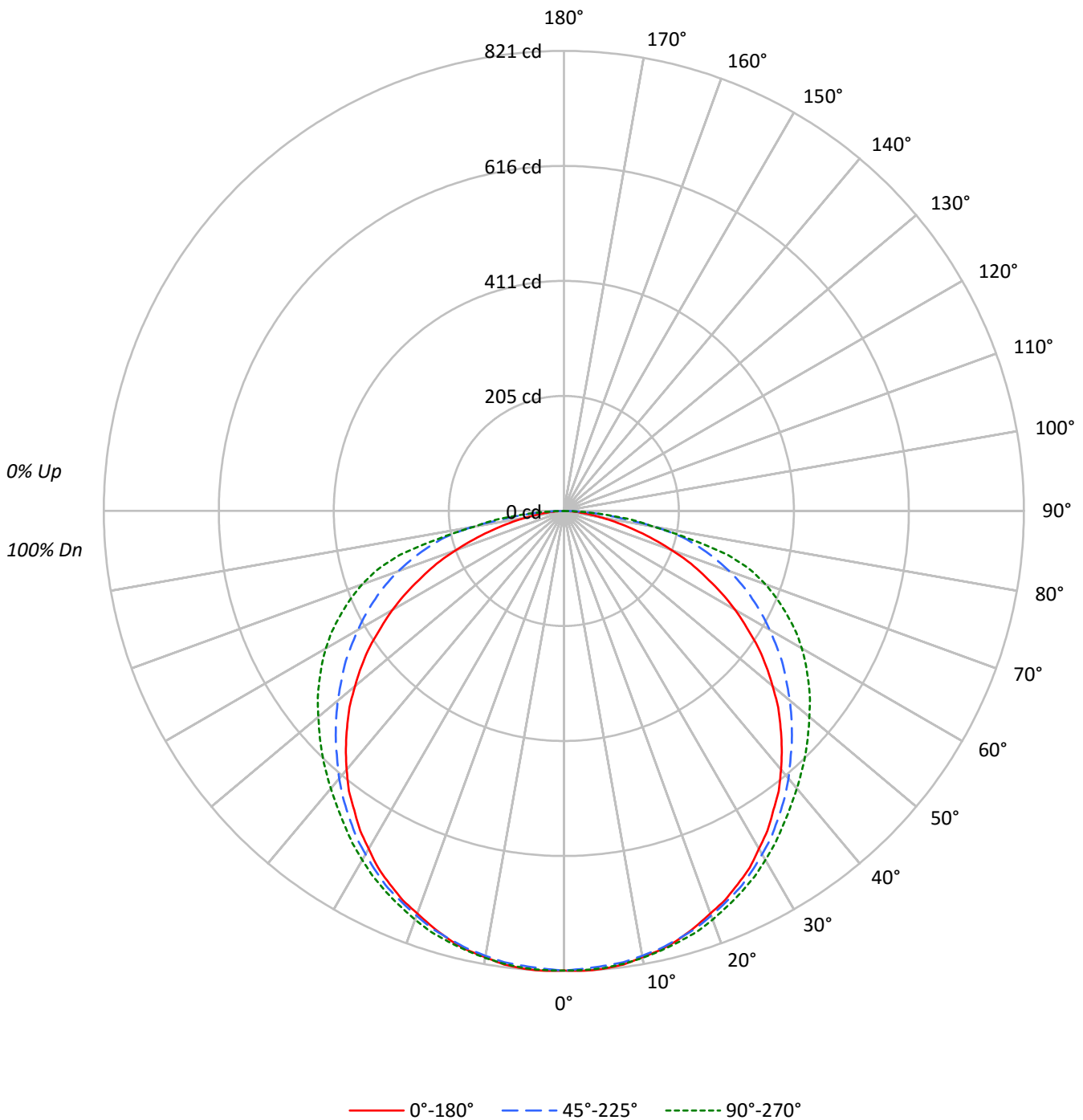
Input Watts (W): 37.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1103	1103	1103
5°	1108	1101	1106
10°	1105	1101	1106
15°	1103	1101	1108
20°	1095	1100	1111
25°	1091	1102	1114
30°	1081	1099	1117
35°	1071	1096	1122
40°	1059	1095	1136
45°	1041	1095	1162
50°	1018	1102	1197
55°	992	1120	1250
60°	950	1142	1319
65°	890	1182	1400
70°	809	1236	1506
75°	686	1305	1574
80°	542	1313	1273
85°	400	999	1118



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.8	3.0
10°-20°	223.9	8.6
20°-30°	342.4	13.1
30°-40°	418.6	16.0
40°-50°	446.1	17.1
50°-60°	426.5	16.4
60°-70°	361.3	13.9
70°-80°	242.9	9.3
80°-90°	68.5	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°	644.1	24.7
0°-40°	1062.7	40.7
0°-60°	1935.3	74.2
0°-90°	2608.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2608.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	820	820	820	820	820	
5°	820	819	815	819	819	78
15°	792	792	790	797	796	223
25°	735	737	742	749	750	339
35°	652	657	668	680	683	408
45°	547	556	576	600	611	422
55°	423	438	477	515	533	377
65°	279	308	371	420	440	277
75°	132	180	251	294	303	141
85°	26	53	65	70	72	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	820.1	820.1	820.1	820.1	820.1
2.5°	821.4	821.4	817.6	820.1	820.1
5°	820.1	818.8	815.0	818.8	818.8
7.5°	816.3	815.0	812.4	816.3	815.0
10°	808.5	808.5	805.9	809.8	809.8
12.5°	802.0	800.7	799.4	804.6	803.3
15°	791.7	791.7	790.4	796.9	795.6
17.5°	778.7	780.0	781.3	786.5	787.8
20°	764.5	767.1	768.4	776.2	776.2
22.5°	751.6	752.9	755.5	763.2	763.2
25°	734.8	737.4	742.5	749.0	750.3
27.5°	717.9	719.2	725.7	734.8	736.1
30°	696.0	699.8	707.6	717.9	719.2
32.5°	676.6	680.4	689.5	699.8	702.4
35°	652.0	657.1	667.5	680.4	683.0
37.5°	630.0	633.9	646.8	661.0	664.9
40°	602.8	610.6	623.5	640.3	646.8
42.5°	575.7	583.4	598.9	620.9	628.7
45°	547.2	556.2	575.7	600.2	610.6
47.5°	518.7	529.1	551.1	579.5	591.2
50°	486.4	499.3	526.5	558.8	571.8
52.5°	455.3	470.9	500.6	536.8	553.7
55°	423.0	438.5	477.3	514.9	533.0
57.5°	386.8	407.5	450.2	492.9	512.3
60°	353.2	372.6	424.3	470.9	490.3
62.5°	316.9	342.8	398.4	447.6	467.0
65°	279.4	307.9	371.3	420.4	439.8
67.5°	245.8	276.8	344.1	393.3	412.7
70°	205.7	244.5	314.3	363.5	382.9
72.5°	168.2	210.9	283.3	331.2	349.3
75°	131.9	179.8	251.0	293.6	302.7
77.5°	98.3	148.8	217.3	235.4	229.0
80°	69.9	119.0	169.5	160.4	164.3
82.5°	45.3	90.6	104.8	119.0	122.9
85°	25.9	53.0	64.7	69.9	72.4
87.5°	11.6	19.4	25.9	25.9	24.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)