

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: P310159

Luminaire Tested: **24FCZ2-45-UNV-L82765-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: P310159
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-L82765-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: 2547.0 lumens
Efficiency: N/A
Efficacy: 67.4 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

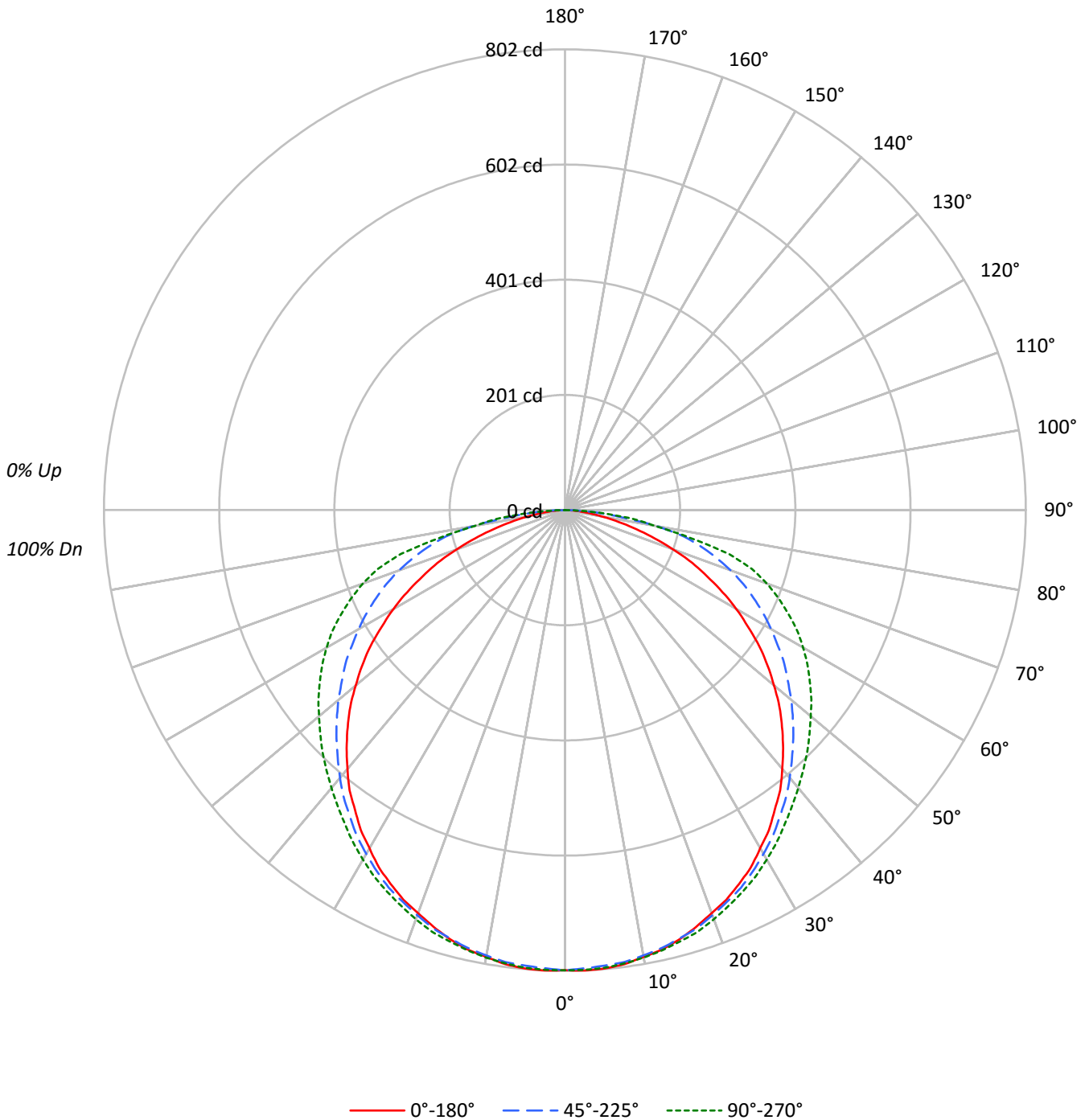
Input Watts (W): 37.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1078	1078	1078
5°	1082	1075	1080
10°	1079	1075	1081
15°	1077	1075	1082
20°	1069	1074	1085
25°	1065	1077	1088
30°	1056	1074	1091
35°	1046	1071	1096
40°	1034	1069	1110
45°	1017	1070	1135
50°	994	1076	1169
55°	969	1094	1221
60°	928	1115	1288
65°	869	1154	1367
70°	790	1208	1471
75°	670	1274	1537
80°	528	1282	1243
85°	391	976	1091



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.0	3.0
10°-20°	218.7	8.6
20°-30°	334.4	13.1
30°-40°	408.8	16.0
40°-50°	435.7	17.1
50°-60°	416.6	16.4
60°-70°	352.9	13.9
70°-80°	237.2	9.3
80°-90°	66.9	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°	629.0	24.7
0°-40°	1037.8	40.7
0°-60°	1890.1	74.2
0°-90°	2547.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2547.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	801	801	801	801	801	
5°	801	800	796	800	800	76
15°	773	773	772	778	777	218
25°	718	720	725	732	733	331
35°	637	642	652	664	667	399
45°	534	543	562	586	596	412
55°	413	428	466	503	520	368
65°	273	301	363	411	430	271
75°	129	176	245	287	296	138
85°	25	52	63	68	71	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	801.0	801.0	801.0	801.0	801.0
2.5°	802.2	802.2	798.4	801.0	801.0
5°	801.0	799.7	795.9	799.7	799.7
7.5°	797.2	795.9	793.4	797.2	795.9
10°	789.6	789.6	787.1	790.9	790.9
12.5°	783.3	782.0	780.7	785.8	784.5
15°	773.2	773.2	771.9	778.2	777.0
17.5°	760.5	761.8	763.1	768.1	769.4
20°	746.6	749.2	750.4	758.0	758.0
22.5°	734.0	735.3	737.8	745.4	745.4
25°	717.6	720.1	725.2	731.5	732.7
27.5°	701.2	702.4	708.7	717.6	718.8
30°	679.7	683.5	691.0	701.2	702.4
32.5°	660.7	664.5	673.4	683.5	686.0
35°	636.7	641.8	651.9	664.5	667.0
37.5°	615.2	619.0	631.7	645.6	649.4
40°	588.7	596.3	608.9	625.4	631.7
42.5°	562.2	569.8	584.9	606.4	614.0
45°	534.4	543.2	562.2	586.2	596.3
47.5°	506.6	516.7	538.2	566.0	577.3
50°	475.0	487.6	514.2	545.8	558.4
52.5°	444.7	459.9	488.9	524.3	540.7
55°	413.1	428.3	466.2	502.8	520.5
57.5°	377.7	398.0	439.6	481.3	500.3
60°	344.9	363.8	414.4	459.9	478.8
62.5°	309.5	334.8	389.1	437.1	456.1
65°	272.9	300.7	362.6	410.6	429.5
67.5°	240.0	270.4	336.0	384.1	403.0
70°	200.9	238.8	307.0	355.0	373.9
72.5°	164.2	205.9	276.7	323.4	341.1
75°	128.9	175.6	245.1	286.8	295.6
77.5°	96.0	145.3	212.2	229.9	223.6
80°	68.2	116.2	165.5	156.7	160.4
82.5°	44.2	88.4	102.3	116.2	120.0
85°	25.3	51.8	63.2	68.2	70.7
87.5°	11.4	19.0	25.3	25.3	24.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)