

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: P310165

Luminaire Tested: **24FCZ2-45-UNV-L82765-RDP-CP187-W2A-U-6500K**

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: P310165
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-6500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (168) 6500K 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: 2726.0 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

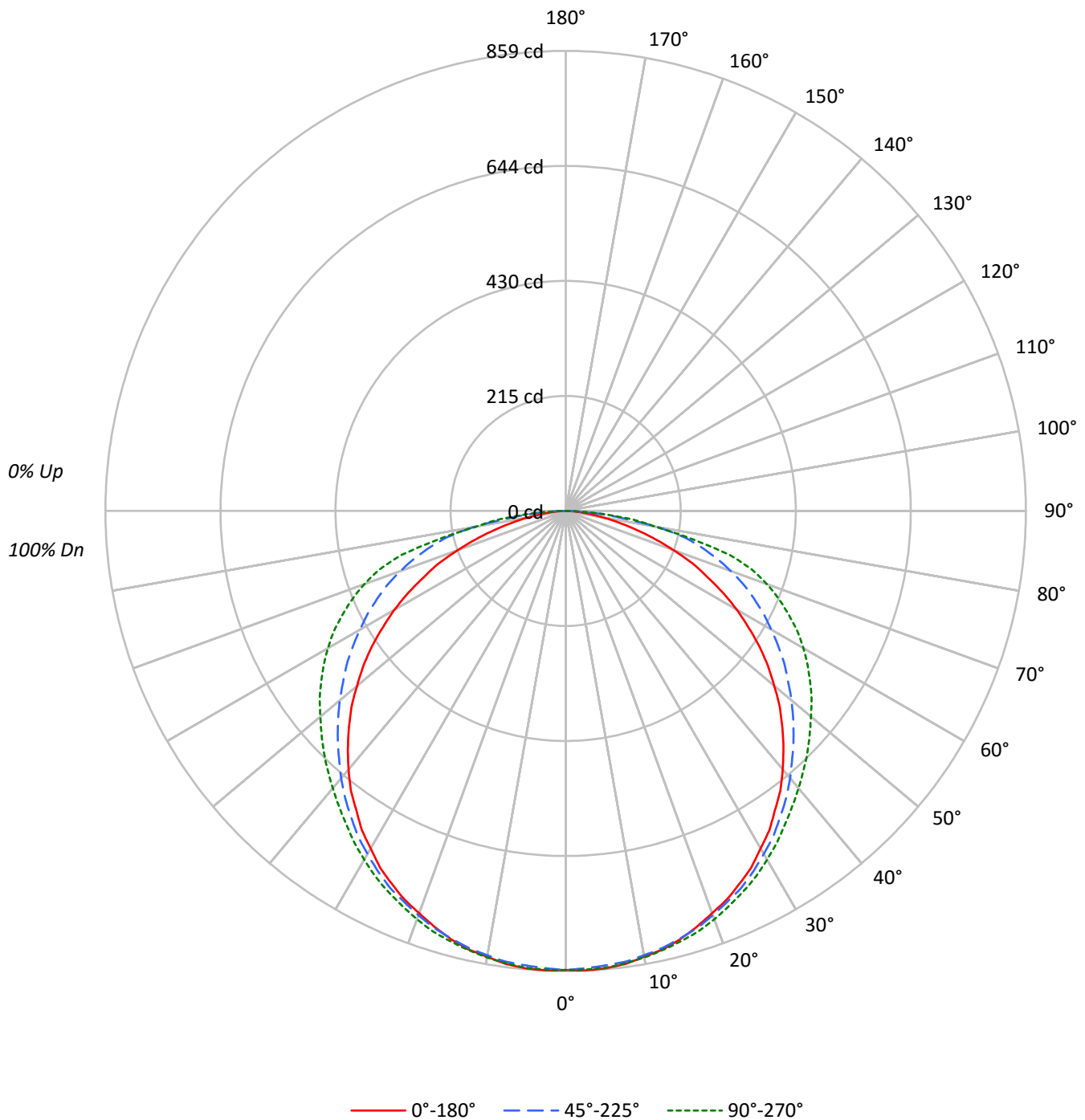
Input Watts (W): 39.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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	68	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°	1153	1153	1153
5°	1158	1150	1156
10°	1155	1151	1156
15°	1153	1151	1158
20°	1144	1150	1162
25°	1140	1152	1164
30°	1130	1149	1168
35°	1119	1146	1173
40°	1107	1145	1188
45°	1088	1145	1214
50°	1064	1152	1251
55°	1037	1170	1307
60°	993	1193	1379
65°	930	1236	1464
70°	846	1293	1574
75°	717	1364	1645
80°	566	1372	1330
85°	417	1044	1169



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.3	3.0
10°-20°	234.0	8.6
20°-30°	357.9	13.1
30°-40°	437.5	16.0
40°-50°	466.3	17.1
50°-60°	445.8	16.4
60°-70°	377.7	13.9
70°-80°	253.8	9.3
80°-90°	71.6	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°	673.2	24.7
0°-40°	1110.7	40.7
0°-60°	2022.9	74.2
0°-90°	2726.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2726.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	857	857	857	857	857	
5°	857	856	852	856	856	81
15°	828	828	826	833	832	233
25°	768	771	776	783	784	354
35°	682	687	698	711	714	427
45°	572	581	602	627	638	441
55°	442	458	499	538	557	394
65°	292	322	388	439	460	290
75°	138	188	262	307	316	148
85°	27	55	68	73	76	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	857.2	857.2	857.2	857.2	857.2
2.5°	858.6	858.6	854.5	857.2	857.2
5°	857.2	855.9	851.8	855.9	855.9
7.5°	853.2	851.8	849.1	853.2	851.8
10°	845.1	845.1	842.4	846.4	846.4
12.5°	838.3	837.0	835.6	841.0	839.7
15°	827.5	827.5	826.2	832.9	831.6
17.5°	814.0	815.3	816.7	822.1	823.4
20°	799.1	801.8	803.2	811.3	811.3
22.5°	785.6	786.9	789.6	797.8	797.8
25°	768.0	770.7	776.1	782.9	784.2
27.5°	750.4	751.8	758.5	768.0	769.4
30°	727.4	731.5	739.6	750.4	751.8
32.5°	707.2	711.2	720.7	731.5	734.2
35°	681.5	686.9	697.7	711.2	713.9
37.5°	658.5	662.5	676.1	690.9	695.0
40°	630.1	638.2	651.7	669.3	676.1
42.5°	601.7	609.8	626.0	649.0	657.1
45°	572.0	581.4	601.7	627.4	638.2
47.5°	542.2	553.0	576.0	605.8	617.9
50°	508.4	521.9	550.3	584.1	597.6
52.5°	475.9	492.2	523.3	561.1	578.7
55°	442.1	458.4	498.9	538.1	557.1
57.5°	404.3	425.9	470.5	515.2	535.4
60°	369.1	389.4	443.5	492.2	512.5
62.5°	331.3	358.3	416.5	467.8	488.1
65°	292.1	321.8	388.1	439.4	459.7
67.5°	256.9	289.4	359.7	411.0	431.3
70°	215.0	255.6	328.6	379.9	400.2
72.5°	175.8	220.4	296.1	346.1	365.1
75°	137.9	187.9	262.3	306.9	316.4
77.5°	102.8	155.5	227.2	246.1	239.3
80°	73.0	124.4	177.1	167.7	171.7
82.5°	47.3	94.6	109.5	124.4	128.5
85°	27.0	55.4	67.6	73.0	75.7
87.5°	12.2	20.3	27.0	27.0	25.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)