

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: P310117

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-CP187-W2A-U-5000K**

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: P310117
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: 24FCZ2-45HE-UNV-L82765-RDP-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 5000K 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: 2657.0 lumens
Efficiency: N/A
Efficacy: 76.8 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

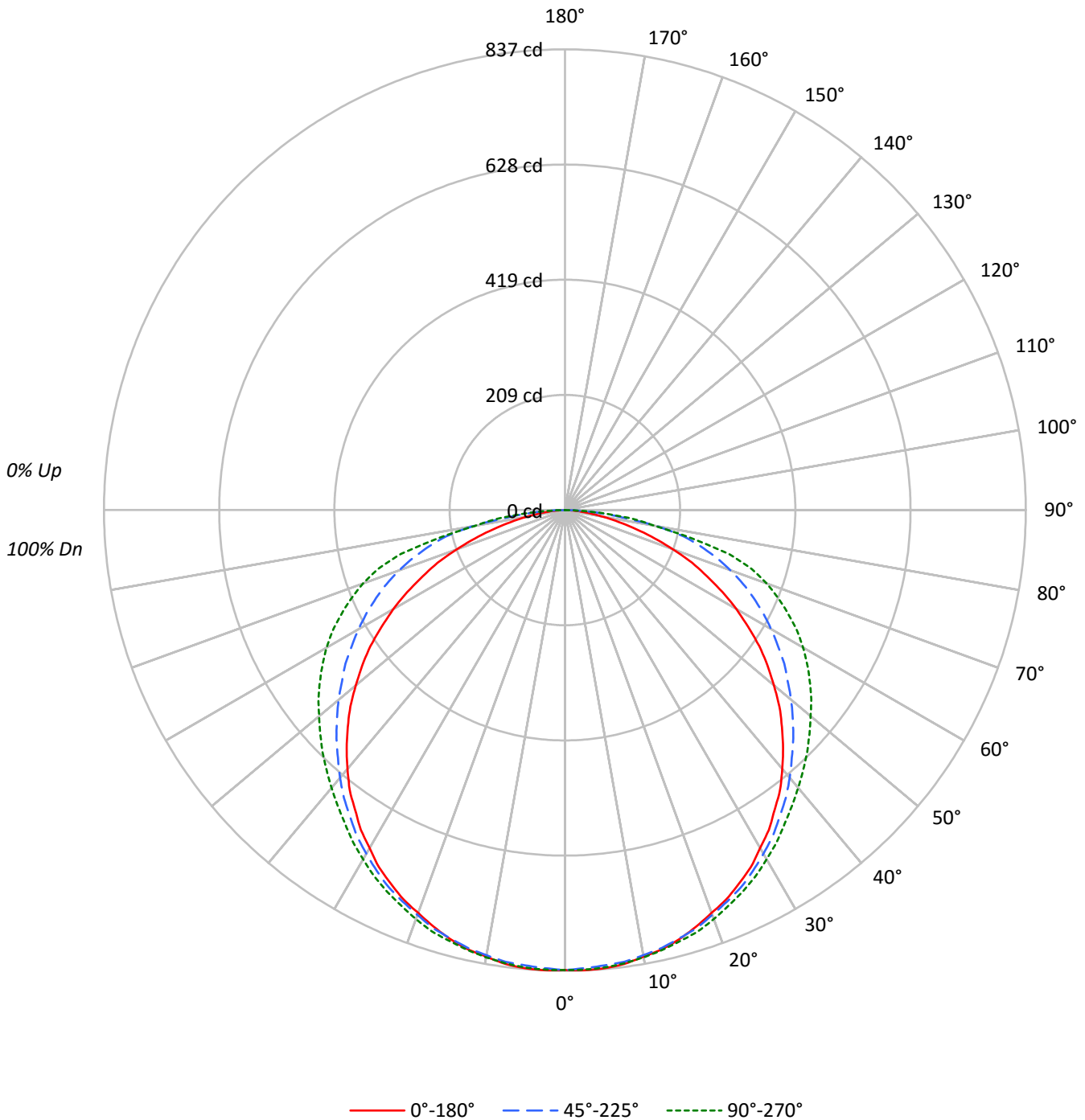
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1124	1124	1124
5°	1129	1121	1127
10°	1125	1122	1127
15°	1124	1122	1129
20°	1115	1121	1132
25°	1111	1123	1135
30°	1102	1120	1139
35°	1091	1117	1143
40°	1079	1116	1157
45°	1061	1116	1184
50°	1037	1123	1219
55°	1011	1141	1274
60°	968	1163	1344
65°	906	1204	1427
70°	824	1260	1535
75°	699	1329	1603
80°	552	1337	1297
85°	408	1017	1139



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.3	3.0
10°-20°	228.1	8.6
20°-30°	348.8	13.1
30°-40°	426.4	16.0
40°-50°	454.5	17.1
50°-60°	434.6	16.4
60°-70°	368.1	13.9
70°-80°	247.4	9.3
80°-90°	69.8	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°	656.2	24.7
0°-40°	1082.6	40.7
0°-60°	1971.7	74.2
0°-90°	2657.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2657.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	836	836	836	836	836	
5°	836	834	830	834	834	79
15°	807	807	805	812	810	227
25°	749	751	756	763	764	345
35°	664	670	680	693	696	416
45°	558	567	586	612	622	430
55°	431	447	486	524	543	384
65°	285	314	378	428	448	283
75°	134	183	256	299	308	144
85°	26	54	66	71	74	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	835.6	835.6	835.6	835.6	835.6
2.5°	836.9	836.9	832.9	835.6	835.6
5°	835.6	834.2	830.3	834.2	834.2
7.5°	831.6	830.3	827.6	831.6	830.3
10°	823.7	823.7	821.1	825.0	825.0
12.5°	817.1	815.8	814.5	819.7	818.4
15°	806.6	806.6	805.2	811.8	810.5
17.5°	793.4	794.7	796.0	801.3	802.6
20°	778.9	781.5	782.8	790.7	790.7
22.5°	765.7	767.0	769.7	777.6	777.6
25°	748.6	751.2	756.5	763.1	764.4
27.5°	731.4	732.8	739.3	748.6	749.9
30°	709.0	713.0	720.9	731.4	732.8
32.5°	689.3	693.2	702.4	713.0	715.6
35°	664.2	669.5	680.0	693.2	695.9
37.5°	641.8	645.8	659.0	673.4	677.4
40°	614.1	622.1	635.2	652.4	659.0
42.5°	586.5	594.4	610.2	632.6	640.5
45°	557.5	566.7	586.5	611.5	622.1
47.5°	528.5	539.0	561.4	590.4	602.3
50°	495.5	508.7	536.4	569.3	582.5
52.5°	463.9	479.7	510.0	546.9	564.1
55°	431.0	446.8	486.3	524.5	543.0
57.5°	394.1	415.1	458.6	502.1	521.9
60°	359.8	379.6	432.3	479.7	499.5
62.5°	322.9	349.2	405.9	456.0	475.8
65°	284.7	313.7	378.2	428.3	448.1
67.5°	250.4	282.0	350.6	400.6	420.4
70°	209.5	249.1	320.3	370.3	390.1
72.5°	171.3	214.8	288.6	337.4	355.8
75°	134.4	183.2	255.7	299.2	308.4
77.5°	100.2	151.6	221.4	239.9	233.3
80°	71.2	121.2	172.6	163.4	167.4
82.5°	46.1	92.3	106.8	121.2	125.2
85°	26.4	54.0	65.9	71.2	73.8
87.5°	11.9	19.8	26.4	26.4	25.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)