

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: P310086

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-CA08-W2A-U-3000K**

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: P310086
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-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET
Light Source: (336) 3000K 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: 2604.0 lumens
Efficiency: N/A
Efficacy: 77.5 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

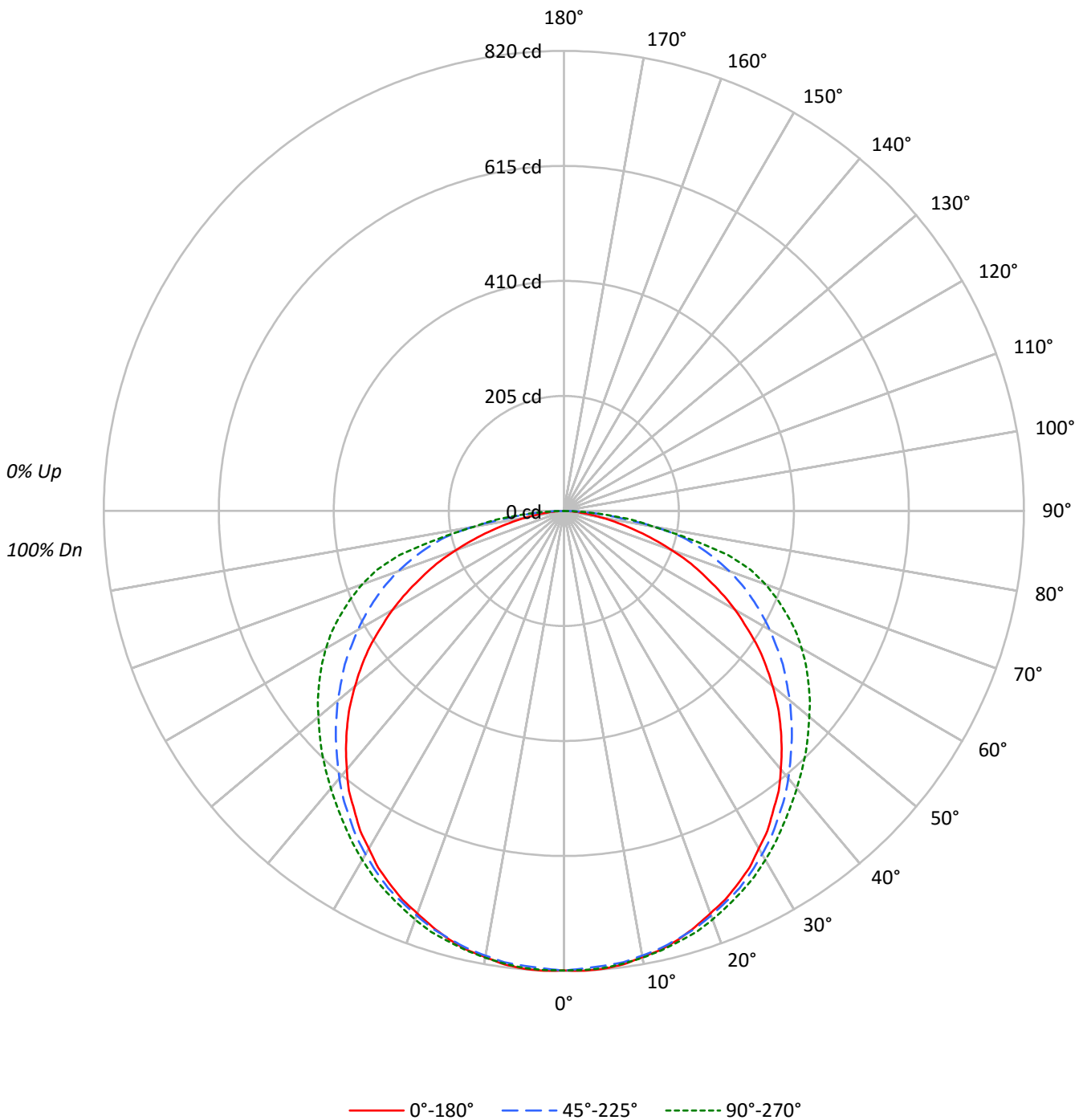
Input Watts (W): 33.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1102	1102	1102
5°	1106	1099	1104
10°	1103	1099	1105
15°	1101	1099	1106
20°	1093	1099	1110
25°	1089	1101	1112
30°	1080	1098	1116
35°	1069	1095	1120
40°	1057	1094	1134
45°	1040	1094	1160
50°	1016	1100	1195
55°	991	1118	1248
60°	949	1140	1317
65°	888	1180	1398
70°	808	1235	1504
75°	685	1303	1571
80°	540	1311	1271
85°	398	997	1116



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.7	3.0
10°-20°	223.6	8.6
20°-30°	341.9	13.1
30°-40°	417.9	16.0
40°-50°	445.4	17.1
50°-60°	425.9	16.4
60°-70°	360.8	13.9
70°-80°	242.5	9.3
80°-90°	68.4	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°	643.1	24.7
0°-40°	1061.0	40.7
0°-60°	1932.3	74.2
0°-90°	2604.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2604.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	819	819	819	819	819	
5°	819	818	814	818	818	78
15°	790	790	789	796	794	223
25°	734	736	741	748	749	338
35°	651	656	666	679	682	408
45°	546	555	575	599	610	421
55°	422	438	477	514	532	376
65°	279	307	371	420	439	277
75°	132	180	251	293	302	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°	818.9	818.9	818.9	818.9	818.9
2.5°	820.2	820.2	816.3	818.9	818.9
5°	818.9	817.6	813.7	817.6	817.6
7.5°	815.0	813.7	811.1	815.0	813.7
10°	807.3	807.3	804.7	808.6	808.6
12.5°	800.8	799.5	798.2	803.4	802.1
15°	790.5	790.5	789.2	795.6	794.3
17.5°	777.6	778.8	780.1	785.3	786.6
20°	763.3	765.9	767.2	775.0	775.0
22.5°	750.4	751.7	754.3	762.1	762.1
25°	733.6	736.2	741.4	747.8	749.1
27.5°	716.8	718.1	724.6	733.6	734.9
30°	694.9	698.8	706.5	716.8	718.1
32.5°	675.5	679.4	688.4	698.8	701.3
35°	651.0	656.1	666.5	679.4	682.0
37.5°	629.0	632.9	645.8	660.0	663.9
40°	601.9	609.6	622.6	639.3	645.8
42.5°	574.8	582.5	598.0	620.0	627.7
45°	546.4	555.4	574.8	599.3	609.6
47.5°	517.9	528.3	550.2	578.6	590.3
50°	485.6	498.6	525.7	558.0	570.9
52.5°	454.6	470.1	499.9	536.0	552.8
55°	422.4	437.9	476.6	514.1	532.1
57.5°	386.2	406.9	449.5	492.1	511.5
60°	352.6	372.0	423.6	470.1	489.5
62.5°	316.4	342.3	397.8	446.9	466.3
65°	279.0	307.4	370.7	419.8	439.1
67.5°	245.4	276.4	343.6	392.7	412.0
70°	205.4	244.1	313.9	362.9	382.3
72.5°	167.9	210.5	282.9	330.7	348.7
75°	131.7	179.5	250.6	293.2	302.2
77.5°	98.2	148.5	217.0	235.1	228.6
80°	69.7	118.8	169.2	160.2	164.0
82.5°	45.2	90.4	104.6	118.8	122.7
85°	25.8	53.0	64.6	69.7	72.3
87.5°	11.6	19.4	25.8	25.8	24.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)