

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: P313566

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-RDP-CA08-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: P313566
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-L83050-RDP-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET
Light Source: (336) 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: 2758.0 lumens
Efficiency: N/A
Efficacy: 81.6 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

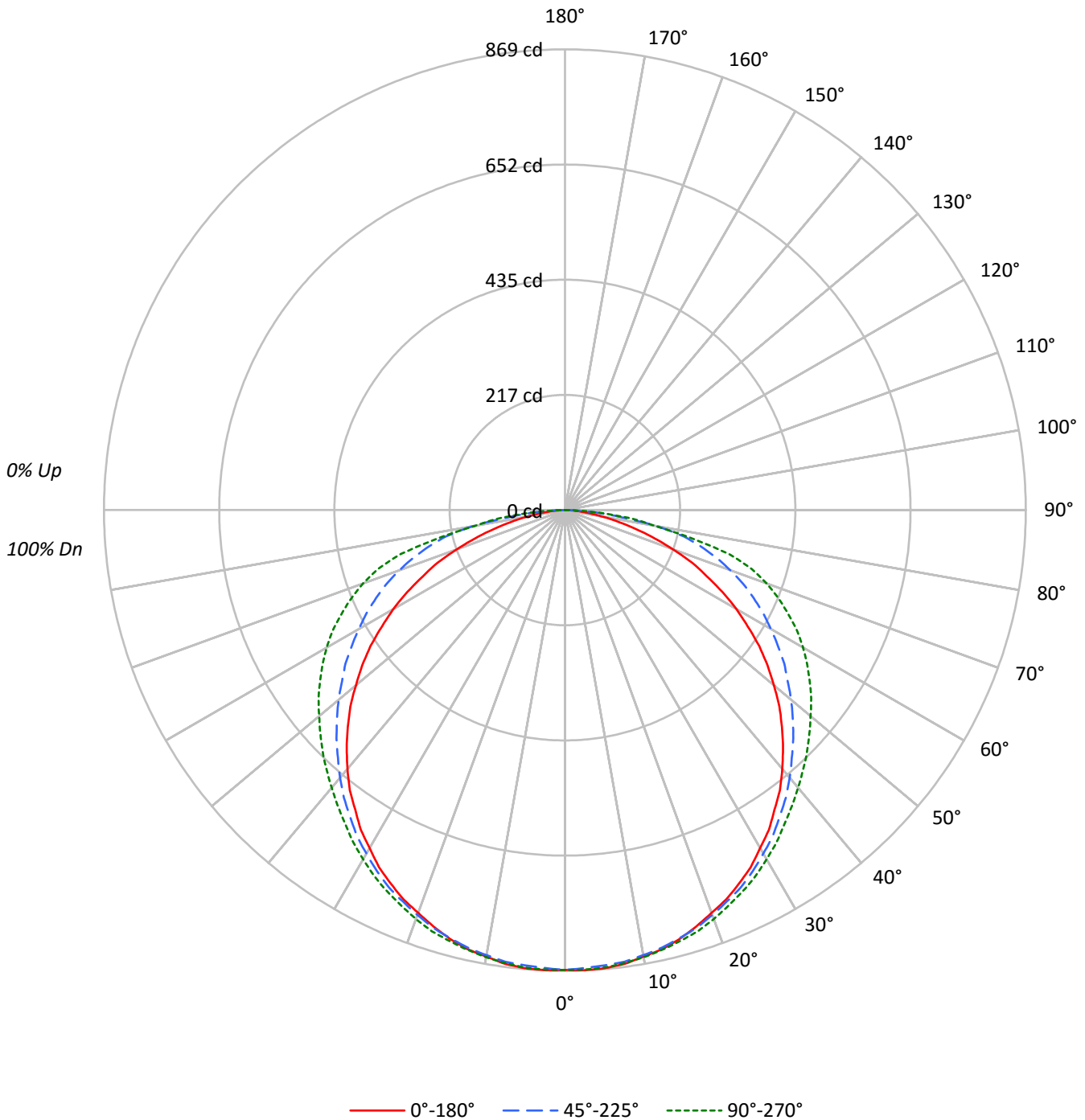
Input Watts (W): 33.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1167	1167	1167
5°	1171	1164	1170
10°	1168	1164	1170
15°	1166	1164	1172
20°	1158	1164	1175
25°	1154	1166	1178
30°	1143	1163	1182
35°	1133	1159	1186
40°	1120	1158	1201
45°	1101	1158	1229
50°	1077	1165	1266
55°	1049	1184	1322
60°	1005	1207	1395
65°	941	1250	1481
70°	856	1308	1593
75°	725	1380	1664
80°	573	1389	1346
85°	423	1056	1183



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.3	3.0
10°-20°	236.8	8.6
20°-30°	362.1	13.1
30°-40°	442.6	16.0
40°-50°	471.8	17.1
50°-60°	451.1	16.4
60°-70°	382.1	13.9
70°-80°	256.8	9.3
80°-90°	72.5	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°	681.1	24.7
0°-40°	1123.8	40.7
0°-60°	2046.6	74.2
0°-90°	2758.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2758.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	867	867	867	867	867	
5°	867	866	862	866	866	82
15°	837	837	836	843	841	236
25°	777	780	785	792	793	358
35°	690	695	706	720	722	432
45°	579	588	609	635	646	446
55°	447	464	505	544	564	398
65°	296	326	393	445	465	293
75°	140	190	265	310	320	149
85°	27	56	68	74	77	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	867.3	867.3	867.3	867.3	867.3
2.5°	868.7	868.7	864.6	867.3	867.3
5°	867.3	865.9	861.8	865.9	865.9
7.5°	863.2	861.8	859.1	863.2	861.8
10°	855.0	855.0	852.3	856.4	856.4
12.5°	848.2	846.8	845.4	850.9	849.5
15°	837.2	837.2	835.8	842.7	841.3
17.5°	823.5	824.9	826.3	831.7	833.1
20°	808.5	811.2	812.6	820.8	820.8
22.5°	794.8	796.2	798.9	807.1	807.1
25°	777.0	779.8	785.2	792.1	793.4
27.5°	759.2	760.6	767.4	777.0	778.4
30°	736.0	740.1	748.3	759.2	760.6
32.5°	715.5	719.6	729.1	740.1	742.8
35°	689.5	694.9	705.9	719.6	722.3
37.5°	666.2	670.3	684.0	699.0	703.2
40°	637.5	645.7	659.4	677.2	684.0
42.5°	608.8	617.0	633.4	656.6	664.8
45°	578.7	588.2	608.8	634.8	645.7
47.5°	548.6	559.5	582.8	612.9	625.2
50°	514.4	528.0	556.8	591.0	604.7
52.5°	481.5	498.0	529.4	567.7	585.5
55°	447.3	463.8	504.8	544.5	563.6
57.5°	409.0	430.9	476.1	521.2	541.7
60°	373.5	394.0	448.7	498.0	518.5
62.5°	335.2	362.5	421.3	473.3	493.8
65°	295.5	325.6	392.6	444.6	465.1
67.5°	259.9	292.8	363.9	415.9	436.4
70°	217.5	258.6	332.4	384.4	404.9
72.5°	177.8	223.0	299.6	350.2	369.4
75°	139.5	190.2	265.4	310.5	320.1
77.5°	104.0	157.3	229.8	249.0	242.1
80°	73.9	125.9	179.2	169.6	173.7
82.5°	47.9	95.8	110.8	125.9	130.0
85°	27.4	56.1	68.4	73.9	76.6
87.5°	12.3	20.5	27.4	27.4	26.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)