

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: P313593

Luminaire Tested: **24FCZ2-45-UNV-L83050-RDP-CA08-W2A-U-4500K**

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: P313593
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-L83050-RDP-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET
Light Source: (168) 4500K 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: 2954.0 lumens
Efficiency: N/A
Efficacy: 75.0 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

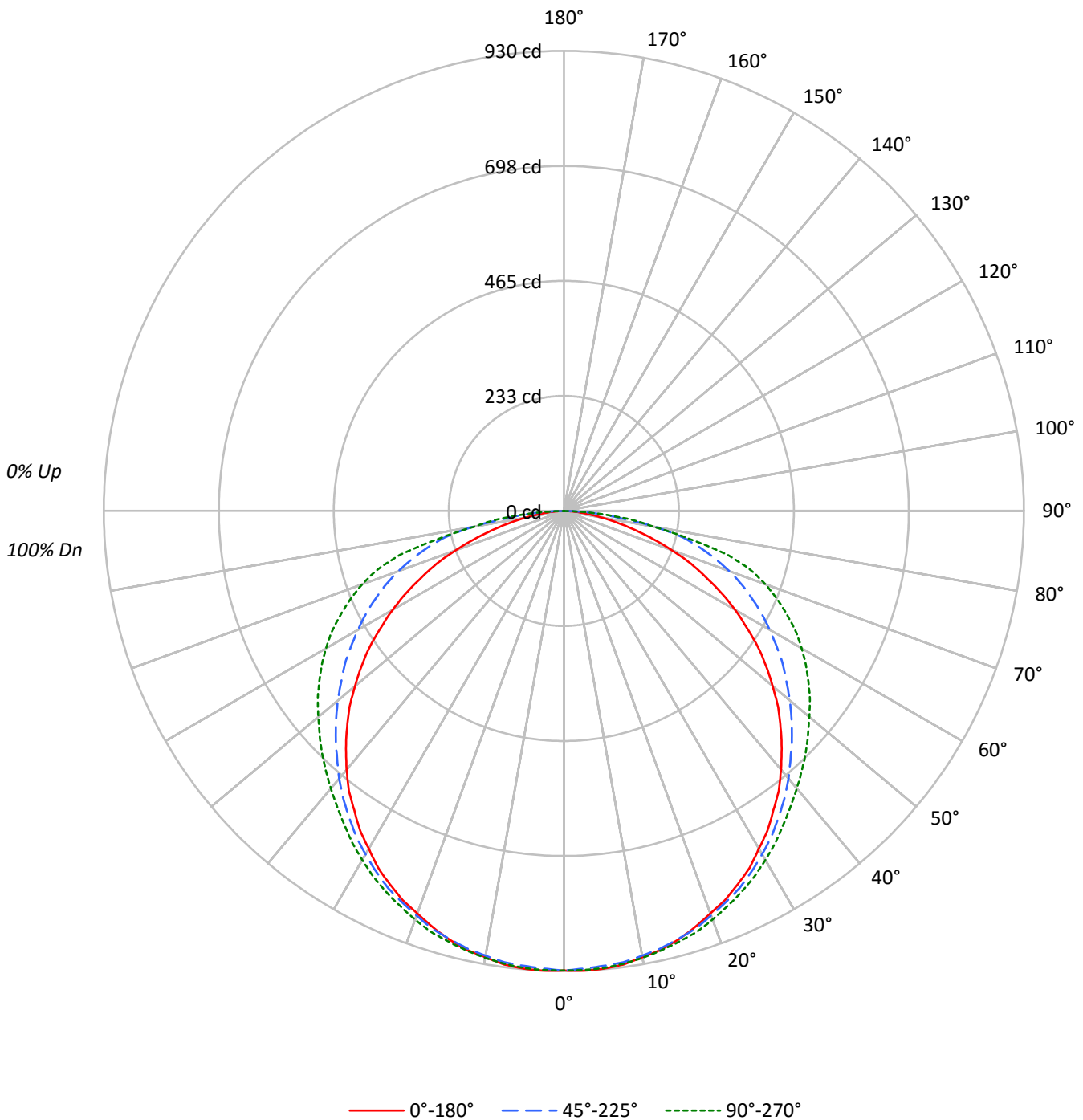
Input Watts (W): 39.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1250	1250	1250
5°	1255	1247	1253
10°	1251	1247	1253
15°	1249	1247	1255
20°	1240	1246	1259
25°	1235	1249	1262
30°	1225	1245	1266
35°	1213	1242	1271
40°	1199	1240	1287
45°	1179	1241	1316
50°	1153	1248	1356
55°	1124	1268	1416
60°	1076	1293	1494
65°	1008	1339	1586
70°	917	1400	1706
75°	777	1478	1783
80°	613	1487	1442
85°	452	1132	1267



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.1	3.0
10°-20°	253.6	8.6
20°-30°	387.8	13.1
30°-40°	474.1	16.0
40°-50°	505.3	17.1
50°-60°	483.1	16.4
60°-70°	409.3	13.9
70°-80°	275.1	9.3
80°-90°	77.6	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°	729.5	24.7
0°-40°	1203.7	40.7
0°-60°	2192.1	74.2
0°-90°	2954.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2954.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	929	929	929	929	929	
5°	929	928	923	928	928	88
15°	897	897	895	903	901	253
25°	832	835	841	848	850	384
35°	738	744	756	771	774	463
45°	620	630	652	680	692	478
55°	479	497	541	583	604	427
65°	316	349	420	476	498	314
75°	150	204	284	333	343	160
85°	29	60	73	79	82	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	928.9	928.9	928.9	928.9	928.9
2.5°	930.4	930.4	926.0	928.9	928.9
5°	928.9	927.5	923.1	927.5	927.5
7.5°	924.6	923.1	920.2	924.6	923.1
10°	915.8	915.8	912.8	917.2	917.2
12.5°	908.4	907.0	905.5	911.4	909.9
15°	896.7	896.7	895.2	902.6	901.1
17.5°	882.1	883.5	885.0	890.9	892.3
20°	865.9	868.9	870.3	879.1	879.1
22.5°	851.3	852.8	855.7	864.5	864.5
25°	832.2	835.2	841.0	848.4	849.8
27.5°	813.2	814.7	822.0	832.2	833.7
30°	788.3	792.7	801.5	813.2	814.7
32.5°	766.3	770.7	781.0	792.7	795.6
35°	738.5	744.3	756.1	770.7	773.6
37.5°	713.6	718.0	732.6	748.7	753.1
40°	682.8	691.6	706.2	725.3	732.6
42.5°	652.0	660.8	678.4	703.3	712.1
45°	619.8	630.0	652.0	679.9	691.6
47.5°	587.6	599.3	624.2	656.4	669.6
50°	550.9	565.6	596.3	633.0	647.6
52.5°	515.8	533.3	567.0	608.1	627.1
55°	479.1	496.7	540.7	583.2	603.7
57.5°	438.1	461.5	509.9	558.2	580.2
60°	400.0	422.0	480.6	533.3	555.3
62.5°	359.0	388.3	451.3	507.0	528.9
65°	316.5	348.7	420.5	476.2	498.2
67.5°	278.4	313.6	389.7	445.4	467.4
70°	233.0	276.9	356.0	411.7	433.7
72.5°	190.5	238.8	320.9	375.1	395.6
75°	149.5	203.7	284.3	332.6	342.9
77.5°	111.4	168.5	246.2	266.7	259.3
80°	79.1	134.8	191.9	181.7	186.1
82.5°	51.3	102.6	118.7	134.8	139.2
85°	29.3	60.1	73.3	79.1	82.1
87.5°	13.2	22.0	29.3	29.3	27.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)