

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: P313614

Luminaire Tested: **24FCZ2-45-UNV-L83050-RDP-CP250-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: P313614
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-CP250-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET
Light Source: (168) 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: 2741.0 lumens
Efficiency: N/A
Efficacy: 69.6 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

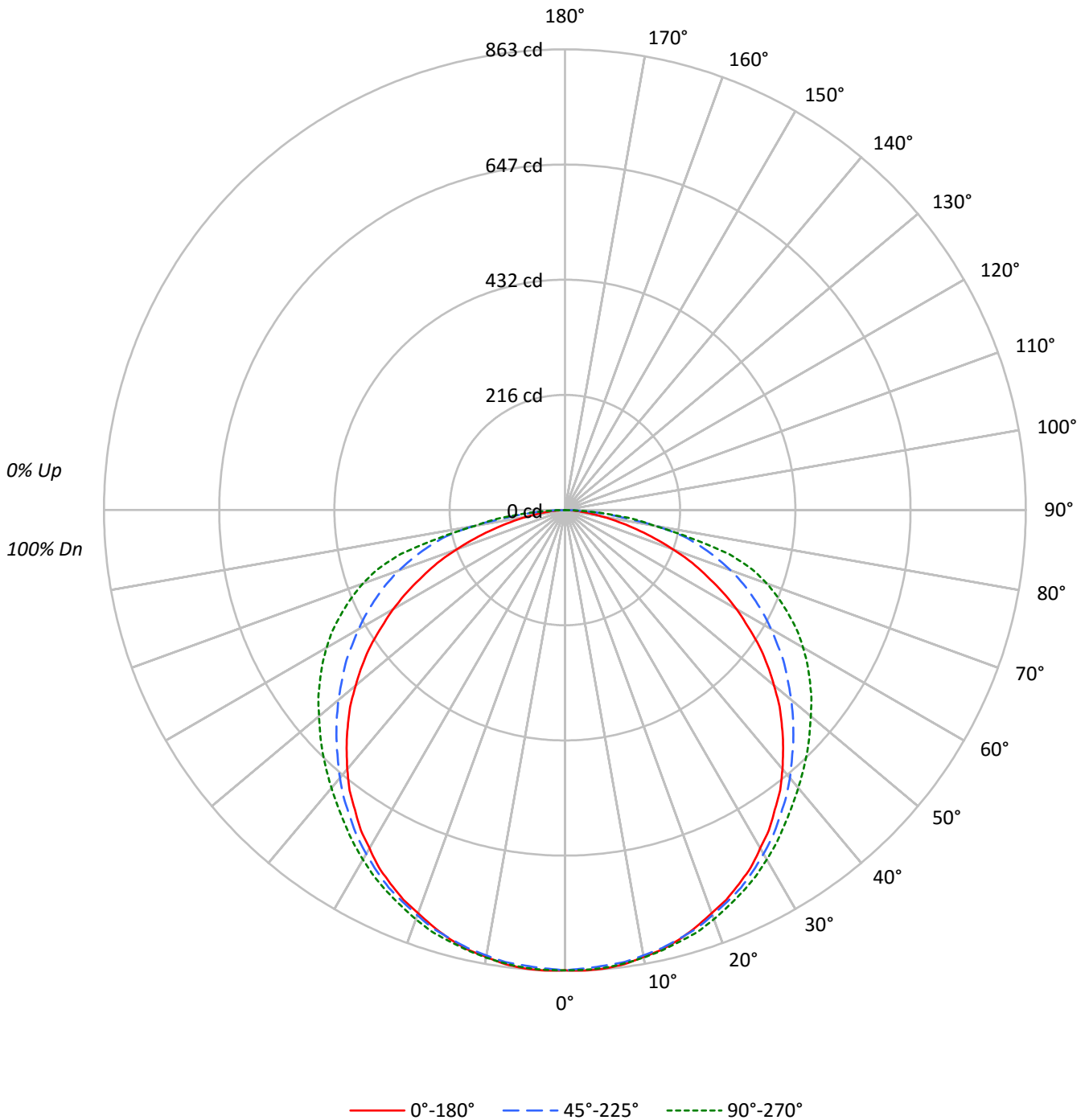
Input Watts (W): 39.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1160	1160	1160
5°	1164	1157	1162
10°	1161	1157	1163
15°	1159	1157	1165
20°	1150	1156	1168
25°	1146	1159	1171
30°	1136	1155	1174
35°	1125	1152	1179
40°	1113	1151	1194
45°	1094	1151	1221
50°	1070	1158	1258
55°	1043	1177	1314
60°	999	1200	1387
65°	935	1242	1472
70°	851	1300	1583
75°	721	1371	1654
80°	569	1380	1338
85°	420	1050	1175



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.8	3.0
10°-20°	235.3	8.6
20°-30°	359.9	13.1
30°-40°	439.9	16.0
40°-50°	468.9	17.1
50°-60°	448.3	16.4
60°-70°	379.8	13.9
70°-80°	255.2	9.3
80°-90°	72.0	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°	676.9	24.7
0°-40°	1116.9	40.7
0°-60°	2034.0	74.2
0°-90°	2741.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2741.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	862	862	862	862	862	
5°	862	861	856	861	861	82
15°	832	832	831	838	836	235
25°	772	775	780	787	788	356
35°	685	691	702	715	718	429
45°	575	585	605	631	642	444
55°	445	461	502	541	560	396
65°	294	324	390	442	462	292
75°	139	189	264	309	318	148
85°	27	56	68	73	76	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	862.0	862.0	862.0	862.0	862.0
2.5°	863.3	863.3	859.2	862.0	862.0
5°	862.0	860.6	856.5	860.6	860.6
7.5°	857.9	856.5	853.8	857.9	856.5
10°	849.7	849.7	847.0	851.1	851.1
12.5°	842.9	841.6	840.2	845.7	844.3
15°	832.1	832.1	830.7	837.5	836.1
17.5°	818.5	819.8	821.2	826.6	828.0
20°	803.5	806.2	807.6	815.7	815.7
22.5°	789.9	791.3	794.0	802.1	802.1
25°	772.2	775.0	780.4	787.2	788.5
27.5°	754.6	755.9	762.7	772.2	773.6
30°	731.4	735.5	743.7	754.6	755.9
32.5°	711.1	715.1	724.6	735.5	738.2
35°	685.2	690.7	701.5	715.1	717.9
37.5°	662.1	666.2	679.8	694.7	698.8
40°	633.6	641.7	655.3	673.0	679.8
42.5°	605.0	613.2	629.5	652.6	660.8
45°	575.1	584.6	605.0	630.8	641.7
47.5°	545.2	556.1	579.2	609.1	621.3
50°	511.2	524.8	553.3	587.3	600.9
52.5°	478.6	494.9	526.2	564.2	581.9
55°	444.6	460.9	501.7	541.1	560.1
57.5°	406.5	428.3	473.1	518.0	538.4
60°	371.2	391.6	445.9	494.9	515.3
62.5°	333.1	360.3	418.7	470.4	490.8
65°	293.7	323.6	390.2	441.9	462.3
67.5°	258.3	290.9	361.6	413.3	433.7
70°	216.2	257.0	330.4	382.0	402.4
72.5°	176.7	221.6	297.7	348.0	367.1
75°	138.7	189.0	263.8	308.6	318.1
77.5°	103.3	156.4	228.4	247.4	240.6
80°	73.4	125.1	178.1	168.6	172.7
82.5°	47.6	95.2	110.1	125.1	129.2
85°	27.2	55.7	68.0	73.4	76.1
87.5°	12.2	20.4	27.2	27.2	25.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)