

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: P310173

Luminaire Tested: **24FCZ2-45-UNV-L82765-RDP-CP250-W2A-U-5700K**

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: P310173
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-L82765-RDP-CP250-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET
Light Source: (168) 5700K 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: 2696.0 lumens
Efficiency: N/A
Efficacy: 69.7 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

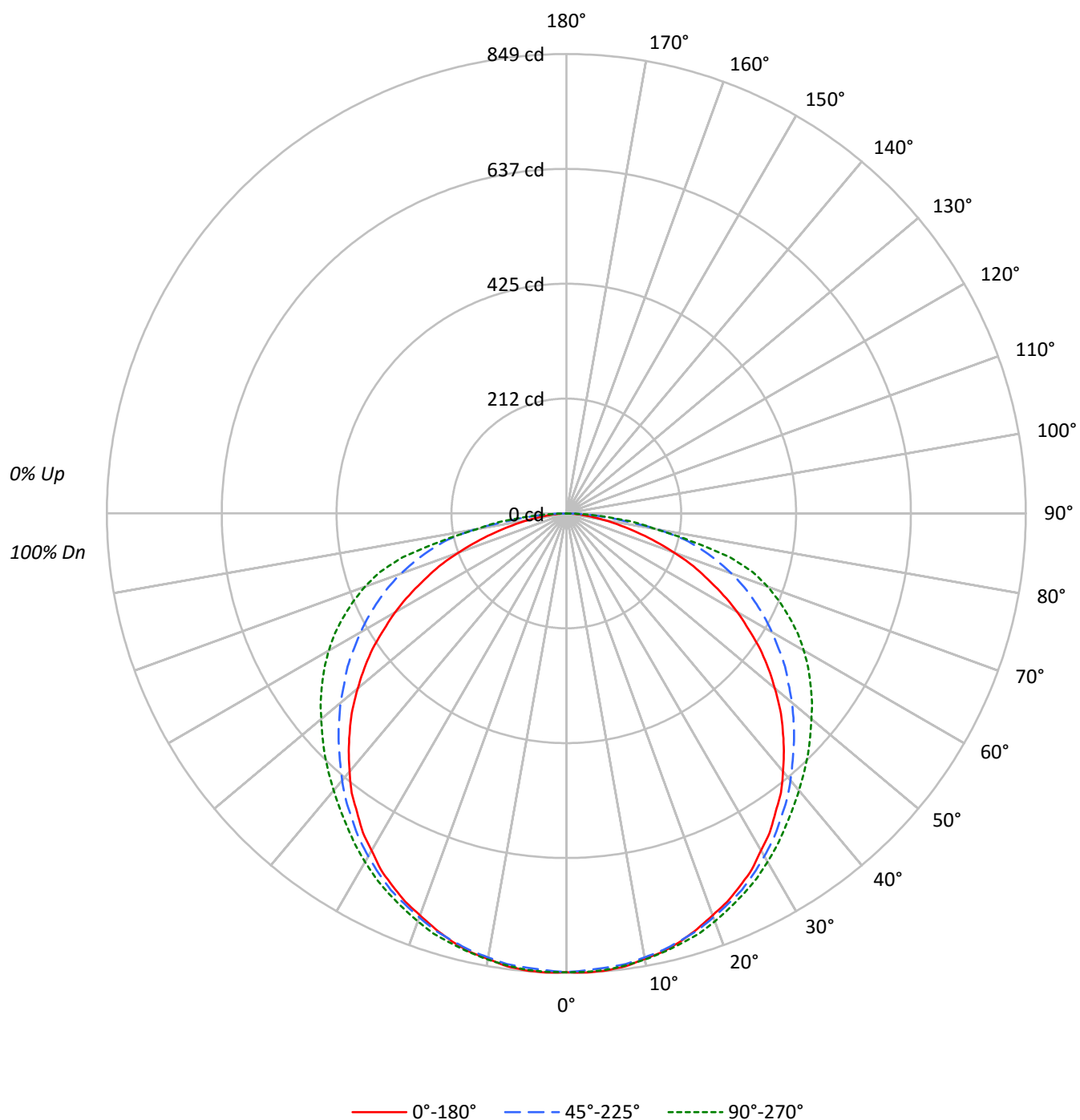
Input Watts (W): 38.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	100	96	92	96	93	89		92	89	87		82
2	97	89	81	75	95	87	80	74	83	77	72		80	75	71		67
3	88	77	68	62	86	76	67	61	72	66	60		70	64	59		56
4	81	68	59	52	78	67	58	51	64	57	51		62	55	50		47
5	74	60	51	44	72	59	51	44	57	49	43		55	48	43		40
6	68	54	45	38	66	53	45	38	51	44	38		50	43	37		35
7	63	49	40	34	61	48	40	34	47	39	33		45	38	33		31
8	59	45	36	30	57	44	36	30	43	35	30		41	34	29		27
9	55	41	33	27	53	40	32	27	39	32	27		38	31	26		24
10	51	38	30	24	50	37	29	24	36	29	24		35	29	24		22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1141	1141	1141
5°	1145	1138	1143
10°	1142	1138	1144
15°	1140	1138	1146
20°	1132	1137	1149
25°	1128	1140	1151
30°	1118	1136	1155
35°	1107	1133	1160
40°	1095	1132	1174
45°	1076	1132	1201
50°	1052	1139	1237
55°	1026	1157	1292
60°	982	1180	1364
65°	919	1222	1448
70°	836	1279	1557
75°	709	1349	1627
80°	559	1358	1316
85°	412	1033	1156



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.4	3.0
10°-20°	231.5	8.6
20°-30°	354.0	13.1
30°-40°	432.7	16.0
40°-50°	461.2	17.1
50°-60°	440.9	16.4
60°-70°	373.5	13.9
70°-80°	251.0	9.3
80°-90°	70.8	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°	665.8	24.7
0°-40°	1098.5	40.7
0°-60°	2000.6	74.2
0°-90°	2696.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2696.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	848	848	848	848	848	
5°	848	846	842	846	846	81
15°	818	818	817	824	822	231
25°	760	762	768	774	776	350
35°	674	679	690	703	706	422
45°	566	575	595	620	631	436
55°	437	453	493	532	551	389
65°	289	318	384	435	455	287
75°	136	186	259	304	313	146
85°	27	55	67	72	75	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	847.8	847.8	847.8	847.8	847.8
2.5°	849.2	849.2	845.1	847.8	847.8
5°	847.8	846.5	842.5	846.5	846.5
7.5°	843.8	842.5	839.8	843.8	842.5
10°	835.8	835.8	833.1	837.1	837.1
12.5°	829.1	827.8	826.4	831.8	830.4
15°	818.4	818.4	817.1	823.7	822.4
17.5°	805.0	806.4	807.7	813.0	814.4
20°	790.3	793.0	794.3	802.3	802.3
22.5°	776.9	778.3	781.0	789.0	789.0
25°	759.6	762.2	767.6	774.3	775.6
27.5°	742.2	743.5	750.2	759.6	760.9
30°	719.4	723.5	731.5	742.2	743.5
32.5°	699.4	703.4	712.8	723.5	726.1
35°	674.0	679.3	690.0	703.4	706.1
37.5°	651.2	655.3	668.6	683.3	687.3
40°	623.2	631.2	644.6	661.9	668.6
42.5°	595.1	603.1	619.1	641.9	649.9
45°	565.7	575.0	595.1	620.5	631.2
47.5°	536.2	546.9	569.7	599.1	611.1
50°	502.8	516.2	544.3	577.7	591.1
52.5°	470.7	486.8	517.5	555.0	572.3
55°	437.3	453.3	493.4	532.2	550.9
57.5°	399.8	421.2	465.4	509.5	529.6
60°	365.1	385.1	438.6	486.8	506.8
62.5°	327.6	354.4	411.9	462.7	482.7
65°	288.8	318.3	383.8	434.6	454.7
67.5°	254.1	286.2	355.7	406.5	426.6
70°	212.6	252.7	325.0	375.8	395.8
72.5°	173.8	218.0	292.9	342.3	361.1
75°	136.4	185.9	259.4	303.6	312.9
77.5°	101.6	153.8	224.7	243.4	236.7
80°	72.2	123.0	175.2	165.8	169.8
82.5°	46.8	93.6	108.3	123.0	127.0
85°	26.7	54.8	66.9	72.2	74.9
87.5°	12.0	20.1	26.7	26.7	25.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)