

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: P313612

Luminaire Tested: **24FCZ2-45-UNV-L83050-RDP-CP250-W2A-U-4000K**

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: P313612
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-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET
Light Source: (168) 4000K 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: 2716.0 lumens
Efficiency: N/A
Efficacy: 70.5 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

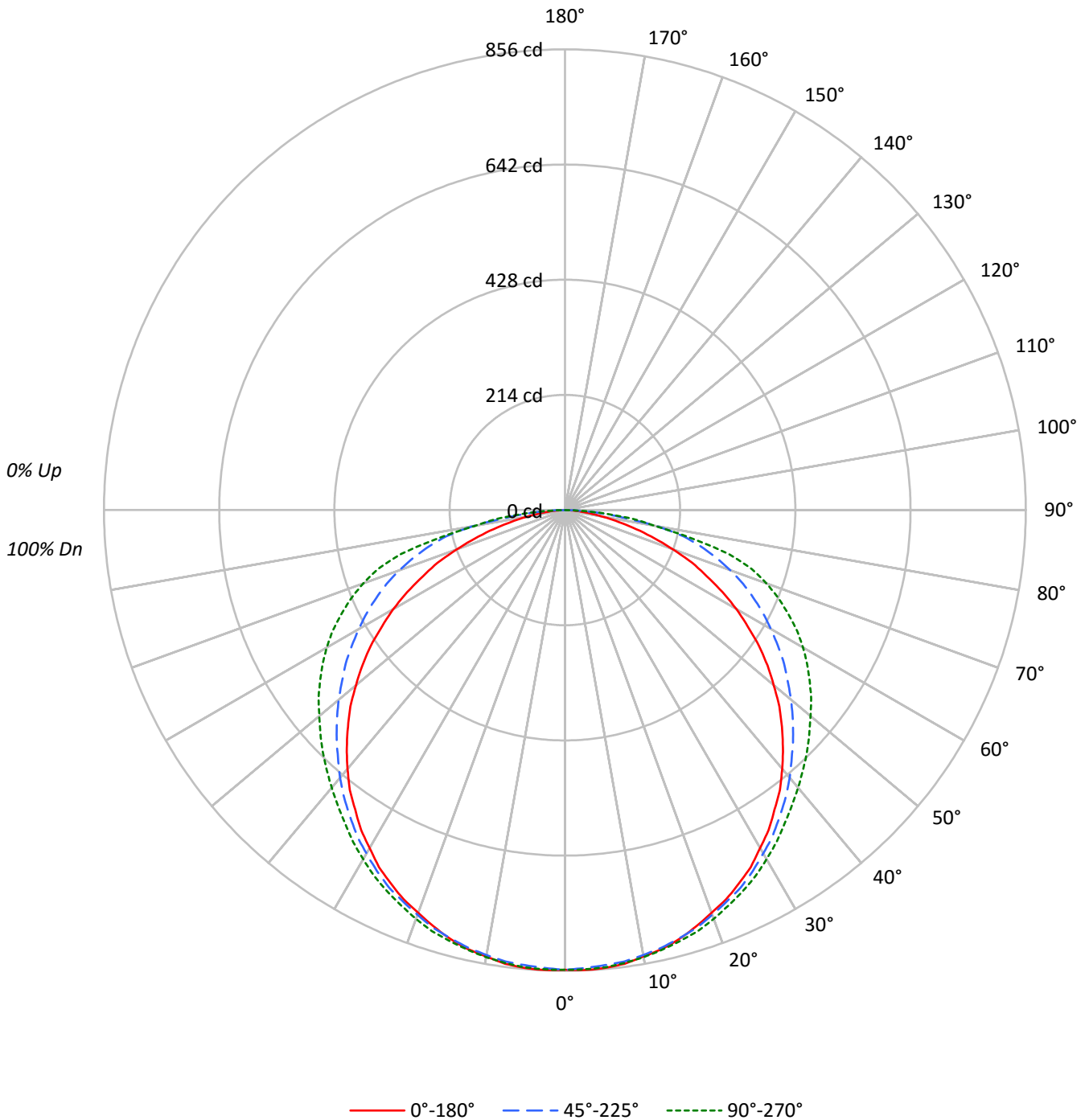
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1149	1149	1149
5°	1154	1146	1152
10°	1150	1147	1152
15°	1148	1147	1154
20°	1140	1146	1157
25°	1136	1148	1160
30°	1126	1145	1164
35°	1115	1142	1168
40°	1103	1140	1183
45°	1084	1141	1210
50°	1060	1148	1246
55°	1033	1166	1302
60°	990	1189	1374
65°	926	1231	1458
70°	843	1288	1569
75°	714	1359	1639
80°	563	1368	1326
85°	415	1041	1164



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.0	3.0
10°-20°	233.2	8.6
20°-30°	356.6	13.1
30°-40°	435.9	16.0
40°-50°	464.6	17.1
50°-60°	444.2	16.4
60°-70°	376.3	13.9
70°-80°	252.9	9.3
80°-90°	71.3	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°	670.8	24.7
0°-40°	1106.7	40.7
0°-60°	2015.5	74.2
0°-90°	2716.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2716.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	854	854	854	854	854	
5°	854	853	849	853	853	81
15°	824	824	823	830	828	232
25°	765	768	773	780	781	353
35°	679	684	695	709	711	425
45°	570	579	600	625	636	440
55°	440	457	497	536	555	392
65°	291	321	387	438	458	289
75°	137	187	261	306	315	147
85°	27	55	67	73	75	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	854.1	854.1	854.1	854.1	854.1
2.5°	855.5	855.5	851.4	854.1	854.1
5°	854.1	852.8	848.7	852.8	852.8
7.5°	850.1	848.7	846.0	850.1	848.7
10°	842.0	842.0	839.3	843.3	843.3
12.5°	835.2	833.9	832.5	837.9	836.6
15°	824.5	824.5	823.1	829.9	828.5
17.5°	811.0	812.3	813.7	819.1	820.4
20°	796.2	798.9	800.2	808.3	808.3
22.5°	782.7	784.1	786.7	794.8	794.8
25°	765.2	767.9	773.3	780.0	781.4
27.5°	747.7	749.0	755.8	765.2	766.5
30°	724.8	728.8	736.9	747.7	749.0
32.5°	704.6	708.6	718.0	728.8	731.5
35°	679.0	684.4	695.1	708.6	711.3
37.5°	656.1	660.1	673.6	688.4	692.4
40°	627.8	635.9	649.3	666.8	673.6
42.5°	599.5	607.6	623.7	646.6	654.7
45°	569.9	579.3	599.5	625.1	635.9
47.5°	540.2	551.0	573.9	603.5	615.7
50°	506.5	520.0	548.3	582.0	595.4
52.5°	474.2	490.4	521.4	559.1	576.6
55°	440.5	456.7	497.1	536.2	555.0
57.5°	402.8	424.4	468.8	513.3	533.5
60°	367.8	388.0	441.9	490.4	510.6
62.5°	330.1	357.0	414.9	466.1	486.3
65°	291.0	320.6	386.6	437.8	458.0
67.5°	256.0	288.3	358.3	409.5	429.7
70°	214.2	254.6	327.4	378.6	398.8
72.5°	175.1	219.6	295.0	344.9	363.7
75°	137.4	187.3	261.4	305.8	315.2
77.5°	102.4	154.9	226.3	245.2	238.4
80°	72.7	123.9	176.5	167.0	171.1
82.5°	47.2	94.3	109.1	123.9	128.0
85°	26.9	55.2	67.4	72.7	75.4
87.5°	12.1	20.2	26.9	26.9	25.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)