

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: P310123

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-CP250-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: P310123
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-L82765-RDP-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB 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: 2500.0 lumens
Efficiency: N/A
Efficacy: 73.5 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

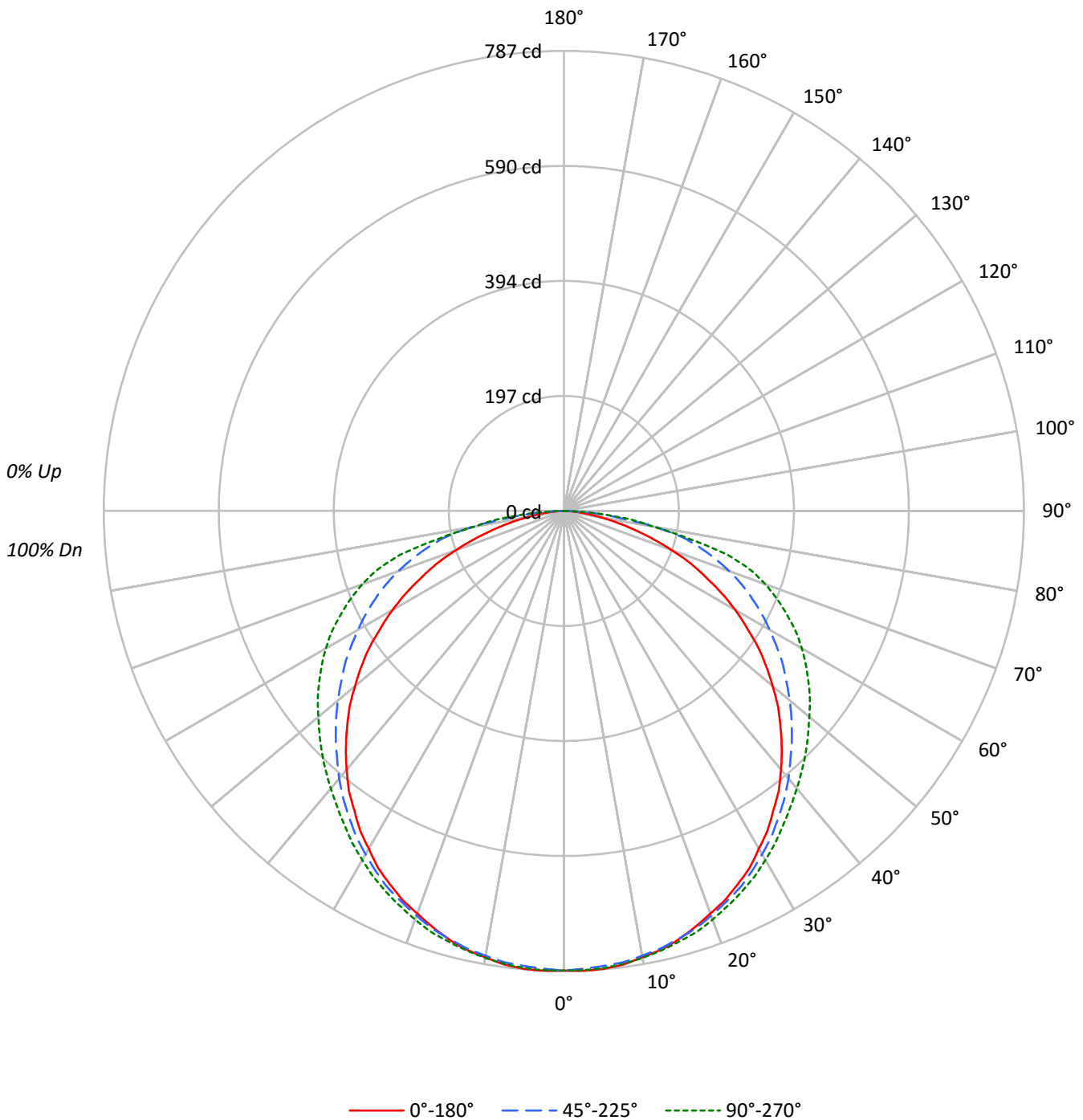
Input Watts (W): 34
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1058	1058	1058
5°	1062	1055	1060
10°	1059	1055	1061
15°	1057	1055	1062
20°	1049	1055	1065
25°	1046	1057	1068
30°	1036	1054	1071
35°	1027	1051	1075
40°	1015	1050	1089
45°	998	1050	1114
50°	976	1056	1147
55°	951	1073	1198
60°	911	1094	1265
65°	853	1133	1342
70°	776	1185	1444
75°	658	1251	1509
80°	519	1258	1220
85°	383	957	1071



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.6	3.0
10°-20°	214.6	8.6
20°-30°	328.2	13.1
30°-40°	401.2	16.0
40°-50°	427.6	17.1
50°-60°	408.9	16.4
60°-70°	346.4	13.9
70°-80°	232.8	9.3
80°-90°	65.7	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°	617.4	24.7
0°-40°	1018.7	40.7
0°-60°	1855.2	74.2
0°-90°	2500.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2500.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	786	786	786	786	786	
5°	786	785	781	785	785	75
15°	759	759	758	764	763	214
25°	704	707	712	718	719	325
35°	625	630	640	652	655	392
45°	524	533	552	575	585	405
55°	406	420	458	494	511	361
65°	268	295	356	403	422	266
75°	126	172	241	282	290	135
85°	25	51	62	67	69	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	786.2	786.2	786.2	786.2	786.2
2.5°	787.4	787.4	783.7	786.2	786.2
5°	786.2	784.9	781.2	784.9	784.9
7.5°	782.5	781.2	778.7	782.5	781.2
10°	775.0	775.0	772.5	776.3	776.3
12.5°	768.8	767.6	766.3	771.3	770.1
15°	758.9	758.9	757.7	763.9	762.6
17.5°	746.5	747.7	749.0	753.9	755.2
20°	732.9	735.3	736.6	744.0	744.0
22.5°	720.5	721.7	724.2	731.6	731.6
25°	704.3	706.8	711.8	718.0	719.2
27.5°	688.2	689.5	695.7	704.3	705.6
30°	667.1	670.9	678.3	688.2	689.5
32.5°	648.5	652.3	660.9	670.9	673.3
35°	625.0	629.9	639.9	652.3	654.7
37.5°	603.9	607.6	620.0	633.7	637.4
40°	577.9	585.3	597.7	613.8	620.0
42.5°	551.8	559.3	574.1	595.2	602.7
45°	524.5	533.2	551.8	575.4	585.3
47.5°	497.3	507.2	528.3	555.5	566.7
50°	466.3	478.7	504.7	535.7	548.1
52.5°	436.5	451.4	479.9	514.6	530.7
55°	405.5	420.4	457.6	493.5	510.9
57.5°	370.8	390.6	431.5	472.5	491.1
60°	338.5	357.1	406.7	451.4	470.0
62.5°	303.8	328.6	381.9	429.1	447.7
65°	267.8	295.1	355.9	403.0	421.6
67.5°	235.6	265.4	329.8	377.0	395.6
70°	197.2	234.4	301.3	348.4	367.0
72.5°	161.2	202.1	271.6	317.4	334.8
75°	126.5	172.4	240.6	281.5	290.2
77.5°	94.2	142.6	208.3	225.7	219.5
80°	67.0	114.1	162.4	153.8	157.5
82.5°	43.4	86.8	100.4	114.1	117.8
85°	24.8	50.8	62.0	67.0	69.4
87.5°	11.2	18.6	24.8	24.8	23.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)