

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: P313586

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-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: P313586
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-L83050-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: 2559.0 lumens
Efficiency: N/A
Efficacy: 75.7 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

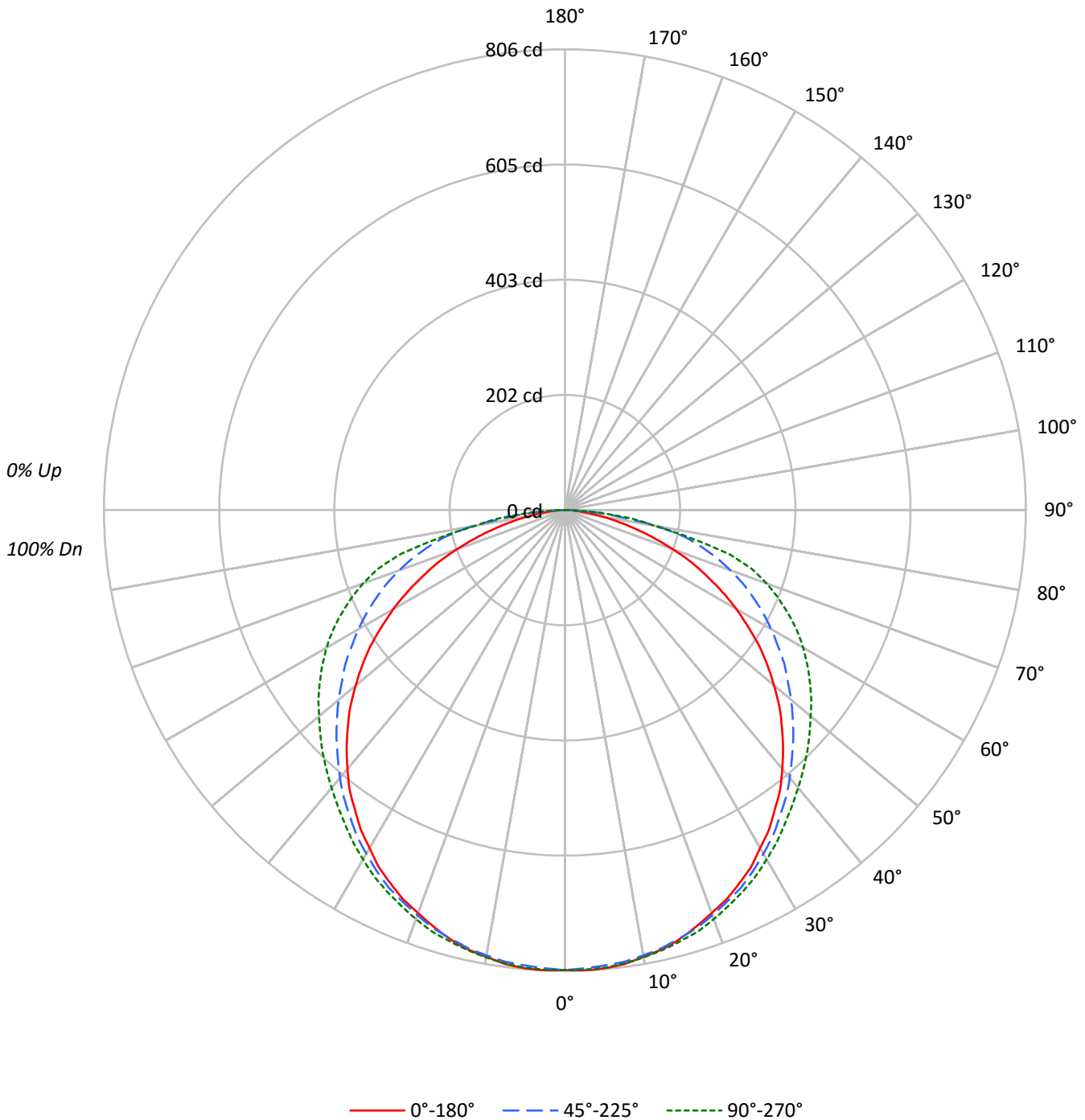
Input Watts (W): 33.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1083	1083	1083
5°	1087	1080	1085
10°	1084	1080	1086
15°	1082	1080	1087
20°	1074	1080	1090
25°	1070	1082	1093
30°	1061	1079	1096
35°	1051	1076	1101
40°	1039	1075	1115
45°	1022	1075	1140
50°	999	1081	1174
55°	974	1099	1227
60°	932	1120	1295
65°	873	1160	1374
70°	794	1213	1478
75°	673	1280	1544
80°	531	1289	1249
85°	392	980	1098



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.3	3.0
10°-20°	219.7	8.6
20°-30°	336.0	13.1
30°-40°	410.7	16.0
40°-50°	437.7	17.1
50°-60°	418.5	16.4
60°-70°	354.5	13.9
70°-80°	238.3	9.3
80°-90°	67.2	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°	632.0	24.7
0°-40°	1042.7	40.7
0°-60°	1899.0	74.2
0°-90°	2559.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2559.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	805	805	805	805	805	
5°	805	804	800	804	804	76
15°	777	777	776	782	781	219
25°	721	724	729	735	736	332
35°	640	645	655	668	670	401
45°	537	546	565	589	599	414
55°	415	430	468	505	523	370
65°	274	302	364	412	432	272
75°	130	176	246	288	297	139
85°	25	52	64	68	71	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	804.7	804.7	804.7	804.7	804.7
2.5°	806.0	806.0	802.2	804.7	804.7
5°	804.7	803.5	799.7	803.5	803.5
7.5°	800.9	799.7	797.1	800.9	799.7
10°	793.3	793.3	790.8	794.6	794.6
12.5°	787.0	785.7	784.4	789.5	788.2
15°	776.8	776.8	775.5	781.9	780.6
17.5°	764.1	765.4	766.7	771.7	773.0
20°	750.2	752.7	754.0	761.6	761.6
22.5°	737.5	738.7	741.3	748.9	748.9
25°	721.0	723.5	728.6	734.9	736.2
27.5°	704.5	705.7	712.1	721.0	722.2
30°	682.9	686.7	694.3	704.5	705.7
32.5°	663.8	667.6	676.5	686.7	689.2
35°	639.7	644.8	655.0	667.6	670.2
37.5°	618.1	622.0	634.6	648.6	652.4
40°	591.5	599.1	611.8	628.3	634.6
42.5°	564.8	572.5	587.7	609.3	616.9
45°	536.9	545.8	564.8	589.0	599.1
47.5°	509.0	519.1	540.7	568.6	580.1
50°	477.3	489.9	516.6	548.3	561.0
52.5°	446.8	462.0	491.2	526.8	543.3
55°	415.1	430.3	468.4	505.2	522.9
57.5°	379.5	399.8	441.7	483.6	502.6
60°	346.5	365.6	416.3	462.0	481.1
62.5°	311.0	336.4	390.9	439.2	458.2
65°	274.2	302.1	364.3	412.5	431.6
67.5°	241.2	271.6	337.6	385.9	404.9
70°	201.8	239.9	308.4	356.7	375.7
72.5°	165.0	206.9	278.0	324.9	342.7
75°	129.5	176.4	246.2	288.1	297.0
77.5°	96.5	146.0	213.2	231.0	224.7
80°	68.5	116.8	166.3	157.4	161.2
82.5°	44.4	88.9	102.8	116.8	120.6
85°	25.4	52.0	63.5	68.5	71.1
87.5°	11.4	19.0	25.4	25.4	24.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)