

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: P313587

Luminaire Tested: **24FCZ2-45HE-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: P313587
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-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET
Light Source: (336) 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: 2687.0 lumens
Efficiency: N/A
Efficacy: 77.7 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

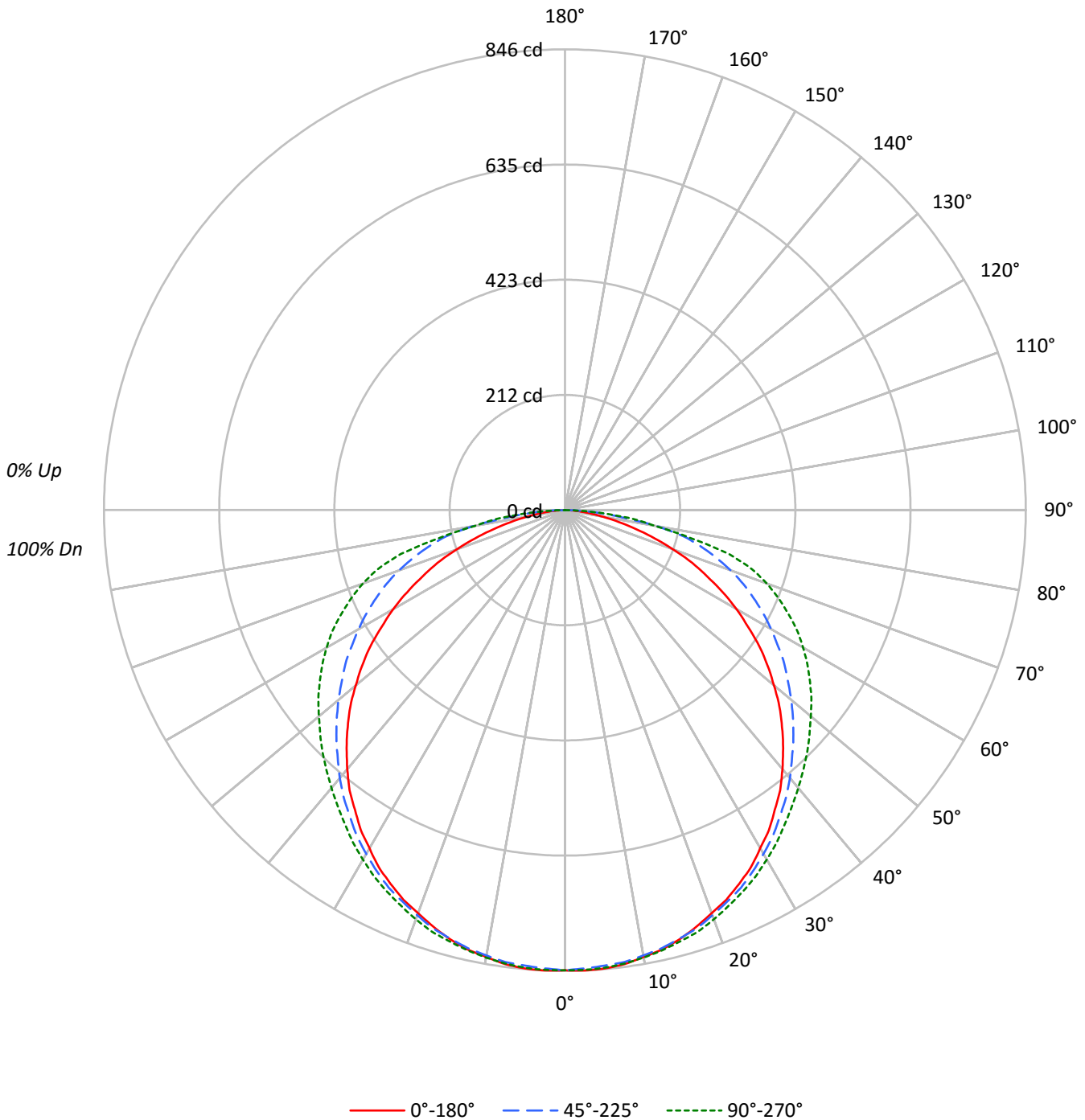
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1137	1137	1137
5°	1141	1134	1140
10°	1138	1134	1140
15°	1136	1134	1142
20°	1128	1134	1145
25°	1124	1136	1148
30°	1114	1133	1151
35°	1103	1130	1156
40°	1091	1128	1170
45°	1073	1129	1197
50°	1049	1135	1233
55°	1022	1154	1288
60°	979	1176	1359
65°	917	1218	1443
70°	834	1274	1552
75°	706	1344	1621
80°	558	1353	1312
85°	412	1028	1152



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.2	3.0
10°-20°	230.7	8.6
20°-30°	352.8	13.1
30°-40°	431.3	16.0
40°-50°	459.6	17.1
50°-60°	439.5	16.4
60°-70°	372.3	13.9
70°-80°	250.2	9.3
80°-90°	70.6	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°	663.6	24.7
0°-40°	1094.9	40.7
0°-60°	1993.9	74.2
0°-90°	2687.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2687.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	845	845	845	845	845	
5°	845	844	840	844	844	80
15°	816	816	814	821	820	230
25°	757	760	765	772	773	349
35°	672	677	688	701	704	421
45°	564	573	593	618	629	435
55°	436	452	492	530	549	388
65°	288	317	382	433	453	286
75°	136	185	259	302	312	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°	845.0	845.0	845.0	845.0	845.0
2.5°	846.3	846.3	842.3	845.0	845.0
5°	845.0	843.7	839.7	843.7	843.7
7.5°	841.0	839.7	837.0	841.0	839.7
10°	833.0	833.0	830.3	834.3	834.3
12.5°	826.3	825.0	823.7	829.0	827.7
15°	815.7	815.7	814.3	821.0	819.7
17.5°	802.3	803.7	805.0	810.3	811.7
20°	787.7	790.3	791.7	799.7	799.7
22.5°	774.3	775.7	778.3	786.3	786.3
25°	757.0	759.7	765.0	771.7	773.0
27.5°	739.7	741.0	747.7	757.0	758.4
30°	717.0	721.0	729.0	739.7	741.0
32.5°	697.0	701.0	710.4	721.0	723.7
35°	671.7	677.1	687.7	701.0	703.7
37.5°	649.1	653.1	666.4	681.1	685.1
40°	621.1	629.1	642.4	659.7	666.4
42.5°	593.1	601.1	617.1	639.7	647.7
45°	563.8	573.1	593.1	618.4	629.1
47.5°	534.4	545.1	567.8	597.1	609.1
50°	501.1	514.5	542.4	575.8	589.1
52.5°	469.1	485.1	515.8	553.1	570.4
55°	435.8	451.8	491.8	530.4	549.1
57.5°	398.5	419.8	463.8	507.8	527.8
60°	363.8	383.8	437.2	485.1	505.1
62.5°	326.5	353.2	410.5	461.1	481.1
65°	287.9	317.2	382.5	433.2	453.1
67.5°	253.2	285.2	354.5	405.2	425.2
70°	211.9	251.9	323.9	374.5	394.5
72.5°	173.3	217.2	291.9	341.2	359.9
75°	135.9	185.3	258.6	302.5	311.9
77.5°	101.3	153.3	223.9	242.6	235.9
80°	72.0	122.6	174.6	165.3	169.3
82.5°	46.6	93.3	108.0	122.6	126.6
85°	26.7	54.6	66.6	72.0	74.6
87.5°	12.0	20.0	26.7	26.7	25.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)