

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: P313103

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-HRP-CP125-W2A-U-4500K**

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: P313103
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-35HE-UNV-L83050-HRP-CP125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" POLYCARB SHEET
Light Source: (336) 4500K 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: 2588.0 lumens
Efficiency: N/A
Efficacy: 94.8 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

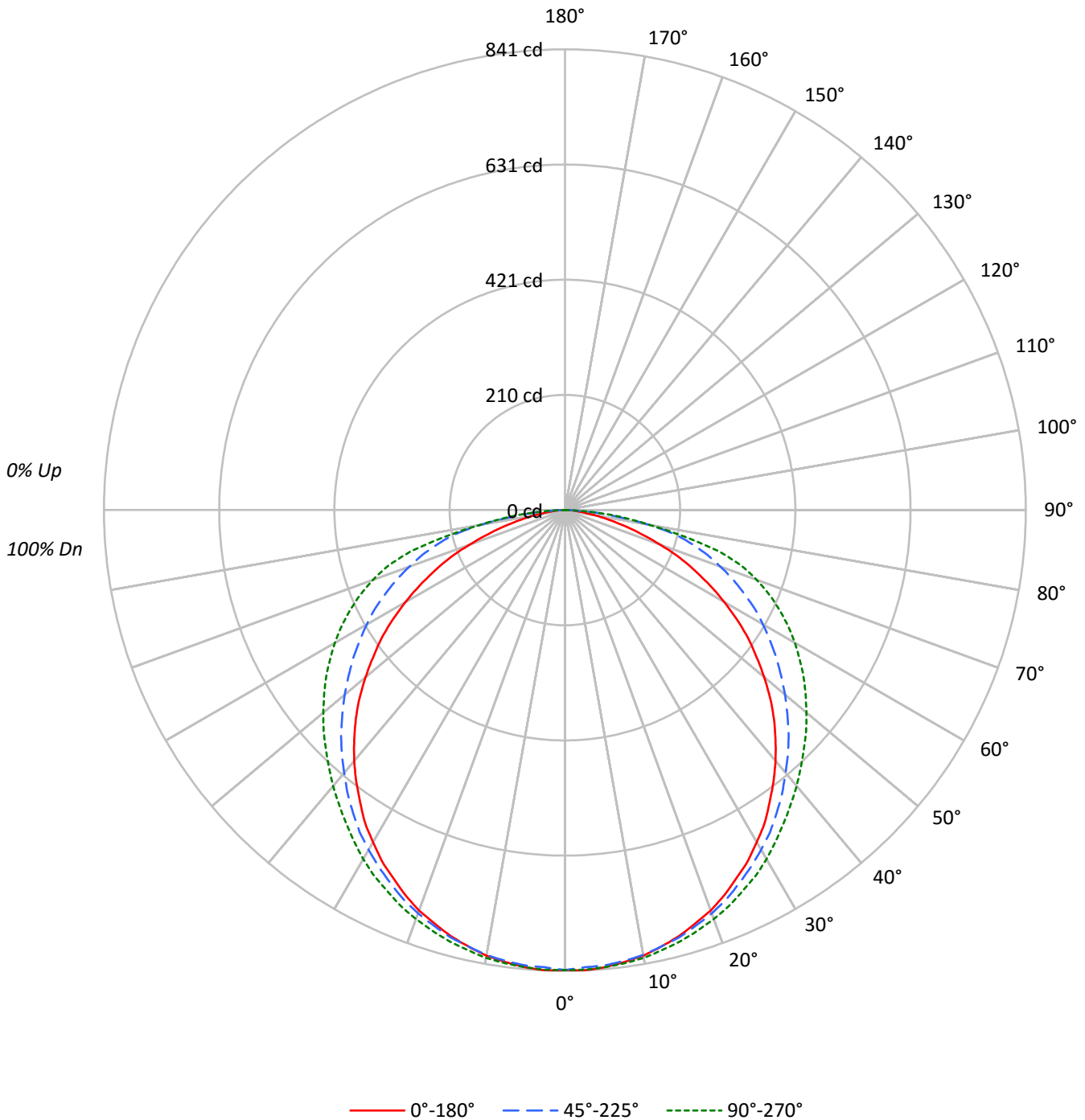
Input Watts (W): 27.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1130	1130	1130
5°	1131	1127	1131
10°	1128	1126	1134
15°	1121	1124	1135
20°	1114	1122	1137
25°	1100	1116	1139
30°	1087	1113	1143
35°	1070	1107	1144
40°	1051	1100	1155
45°	1027	1099	1173
50°	993	1098	1204
55°	958	1106	1248
60°	904	1122	1303
65°	835	1149	1376
70°	729	1189	1466
75°	592	1250	1515
80°	436	1226	1226
85°	335	903	1020



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.5	3.1
10°-20°	228.4	8.8
20°-30°	347.7	13.4
30°-40°	422.2	16.3
40°-50°	446.1	17.2
50°-60°	420.9	16.3
60°-70°	350.0	13.5
70°-80°	230.2	8.9
80°-90°	62.8	2.4
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°	655.7	25.3
0°-40°	1077.9	41.7
0°-60°	1945.0	75.2
0°-90°	2588.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2588.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	840	840	840	840	840	
5°	838	838	834	838	838	80
15°	805	806	807	815	815	227
25°	741	745	752	765	767	342
35°	651	659	674	691	697	408
45°	540	550	578	606	616	416
55°	408	426	471	516	532	364
65°	262	292	361	414	432	259
75°	114	166	240	285	291	123
85°	22	48	58	65	66	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	839.7	839.7	839.7	839.7	839.7
2.5°	840.8	839.7	835.3	839.7	839.7
5°	837.5	837.5	834.3	837.5	837.5
7.5°	832.1	832.1	829.9	834.3	834.3
10°	825.6	825.6	824.5	829.9	829.9
12.5°	815.8	816.9	815.8	822.3	822.3
15°	805.0	806.1	807.2	814.8	814.8
17.5°	790.9	793.1	795.3	803.9	805.0
20°	777.9	779.0	783.3	793.1	794.2
22.5°	760.6	763.8	769.3	779.0	782.3
25°	741.1	745.4	751.9	764.9	767.1
27.5°	722.7	725.9	734.6	748.7	753.0
30°	699.9	705.3	716.2	730.2	735.7
32.5°	678.2	683.7	696.7	711.8	716.2
35°	651.2	658.7	673.9	691.2	696.7
37.5°	625.2	632.7	651.2	670.7	677.2
40°	598.1	606.7	626.2	649.0	657.7
42.5°	568.8	580.7	602.4	627.3	637.1
45°	539.6	550.4	577.5	605.7	616.5
47.5°	508.1	521.1	550.4	584.0	597.0
50°	474.6	490.8	524.4	561.2	575.3
52.5°	441.0	459.4	497.3	538.5	553.6
55°	408.5	425.8	471.3	515.7	532.0
57.5°	372.7	394.4	444.2	491.9	508.1
60°	335.9	359.7	417.1	467.0	484.3
62.5°	299.0	326.1	391.1	441.0	459.4
65°	262.2	292.5	360.8	413.9	432.3
67.5°	226.4	260.0	332.6	385.7	404.1
70°	185.3	227.5	302.3	354.3	372.7
72.5°	147.4	196.1	273.0	321.8	338.0
75°	113.8	165.8	240.5	284.9	291.4
77.5°	83.4	135.4	206.9	222.1	223.2
80°	56.3	108.3	158.2	156.0	158.2
82.5°	36.8	81.3	99.7	111.6	112.7
85°	21.7	47.7	58.5	65.0	66.1
87.5°	10.8	16.3	20.6	21.7	23.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)