

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: P313091

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-HRP-CA08-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: P313091
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-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC 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: 2499.0 lumens
Efficiency: N/A
Efficacy: 96.1 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

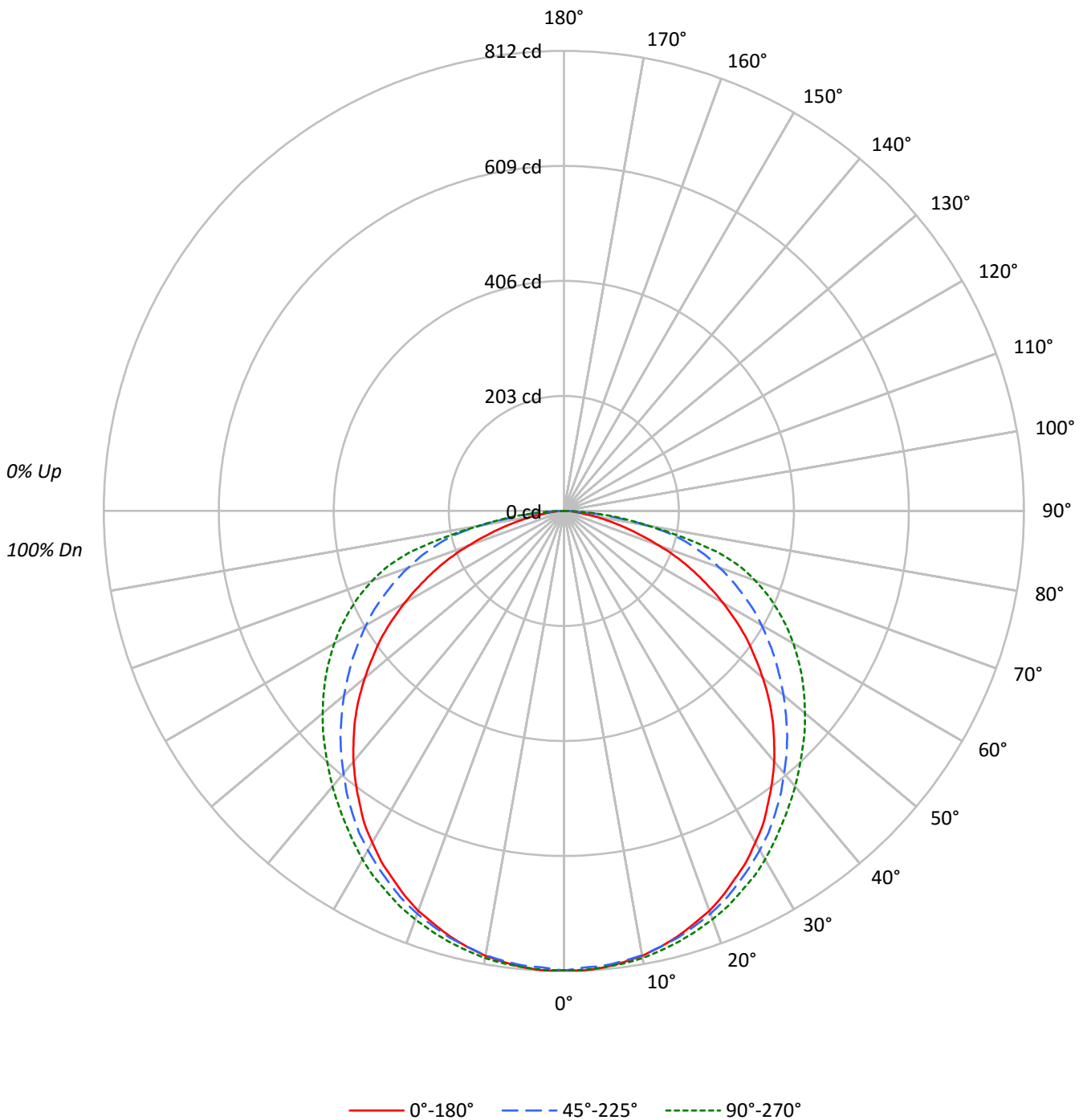
Input Watts (W): 26
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1091	1091	1091
5°	1092	1088	1092
10°	1089	1088	1095
15°	1083	1086	1096
20°	1076	1083	1098
25°	1062	1078	1100
30°	1050	1074	1104
35°	1033	1069	1105
40°	1014	1062	1115
45°	991	1061	1133
50°	959	1060	1163
55°	925	1068	1205
60°	873	1084	1258
65°	806	1109	1329
70°	704	1148	1416
75°	571	1208	1463
80°	422	1183	1183
85°	323	872	985



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.8	3.1
10°-20°	220.6	8.8
20°-30°	335.8	13.4
30°-40°	407.7	16.3
40°-50°	430.8	17.2
50°-60°	406.5	16.3
60°-70°	338.0	13.5
70°-80°	222.3	8.9
80°-90°	60.6	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°	633.2	25.3
0°-40°	1040.9	41.7
0°-60°	1878.1	75.2
0°-90°	2499.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2499.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	811	811	811	811	811	
5°	809	809	806	809	809	77
15°	777	778	779	787	787	219
25°	716	720	726	739	741	330
35°	629	636	651	668	673	394
45°	521	532	558	585	595	401
55°	394	411	455	498	514	351
65°	253	282	348	400	417	250
75°	110	160	232	275	281	118
85°	21	46	56	63	64	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	810.8	810.8	810.8	810.8	810.8
2.5°	811.8	810.8	806.6	810.8	810.8
5°	808.7	808.7	805.6	808.7	808.7
7.5°	803.5	803.5	801.4	805.6	805.6
10°	797.2	797.2	796.2	801.4	801.4
12.5°	787.8	788.8	787.8	794.1	794.1
15°	777.3	778.4	779.4	786.7	786.7
17.5°	763.7	765.8	767.9	776.3	777.3
20°	751.2	752.2	756.4	765.8	766.9
22.5°	734.4	737.6	742.8	752.2	755.4
25°	715.6	719.8	726.1	738.6	740.7
27.5°	697.8	701.0	709.3	722.9	727.1
30°	675.8	681.1	691.5	705.1	710.4
32.5°	654.9	660.2	672.7	687.4	691.5
35°	628.8	636.1	650.7	667.5	672.7
37.5°	603.7	611.0	628.8	647.6	653.9
40°	577.5	585.9	604.7	626.7	635.0
42.5°	549.3	560.8	581.7	605.7	615.2
45°	521.0	531.5	557.6	584.8	595.3
47.5°	490.7	503.2	531.5	563.9	576.5
50°	458.2	473.9	506.4	541.9	555.5
52.5°	425.8	443.6	480.2	520.0	534.6
55°	394.4	411.2	455.1	498.0	513.7
57.5°	359.9	380.8	428.9	475.0	490.7
60°	324.3	347.3	402.8	450.9	467.6
62.5°	288.8	314.9	377.7	425.8	443.6
65°	253.2	282.5	348.4	399.6	417.4
67.5°	218.7	251.1	321.2	372.4	390.2
70°	178.9	219.7	291.9	342.1	359.9
72.5°	142.3	189.4	263.6	310.7	326.4
75°	109.9	160.1	232.3	275.1	281.4
77.5°	80.6	130.8	199.8	214.5	215.5
80°	54.4	104.6	152.7	150.7	152.7
82.5°	35.6	78.5	96.3	107.8	108.8
85°	20.9	46.0	56.5	62.8	63.8
87.5°	10.5	15.7	19.9	20.9	23.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)