

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: P313112

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-HRP-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: P313112
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-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 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: 2435.0 lumens
Efficiency: N/A
Efficacy: 91.5 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

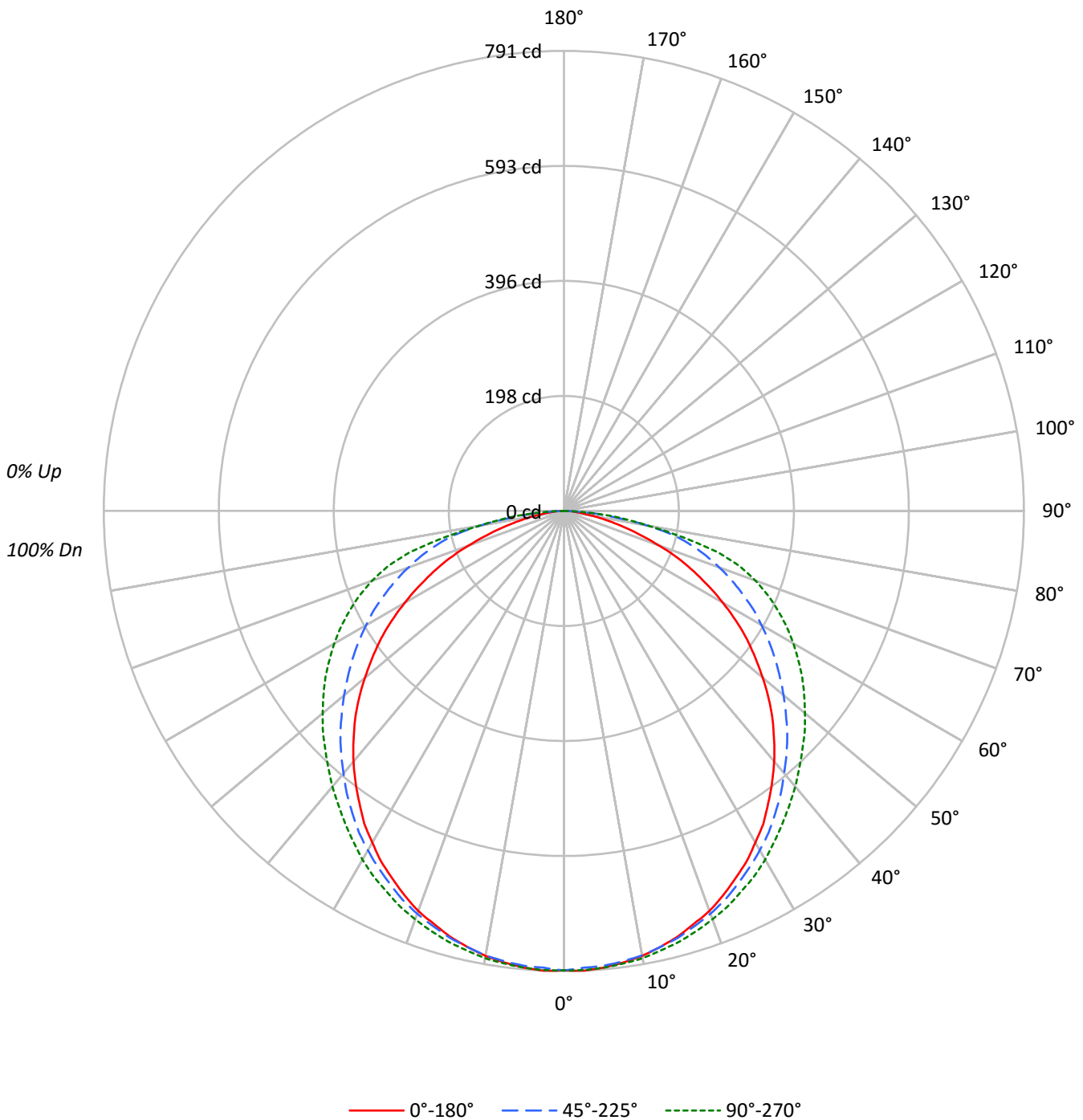
Input Watts (W): 26.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1063	1063	1063
5°	1064	1060	1064
10°	1061	1060	1067
15°	1055	1058	1068
20°	1048	1055	1070
25°	1035	1050	1071
30°	1023	1047	1075
35°	1006	1042	1077
40°	988	1035	1087
45°	966	1034	1104
50°	935	1033	1133
55°	901	1040	1174
60°	850	1056	1226
65°	785	1081	1295
70°	686	1119	1380
75°	556	1176	1425
80°	411	1153	1153
85°	315	849	960



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.8	3.1
10°-20°	214.9	8.8
20°-30°	327.2	13.4
30°-40°	397.3	16.3
40°-50°	419.7	17.2
50°-60°	396.0	16.3
60°-70°	329.3	13.5
70°-80°	216.6	8.9
80°-90°	59.1	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°	616.9	25.3
0°-40°	1014.2	41.7
0°-60°	1830.0	75.2
0°-90°	2435.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2435.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	790	790	790	790	790	
5°	788	788	785	788	788	75
15°	757	758	760	767	767	214
25°	697	701	708	720	722	322
35°	613	620	634	650	656	384
45°	508	518	543	570	580	391
55°	384	401	443	485	500	342
65°	247	275	340	389	407	244
75°	107	156	226	268	274	115
85°	20	45	55	61	62	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	790.0	790.0	790.0	790.0	790.0
2.5°	791.1	790.0	786.0	790.0	790.0
5°	788.0	788.0	784.9	788.0	788.0
7.5°	782.9	782.9	780.9	784.9	784.9
10°	776.8	776.8	775.8	780.9	780.9
12.5°	767.6	768.6	767.6	773.7	773.7
15°	757.4	758.4	759.5	766.6	766.6
17.5°	744.2	746.2	748.2	756.4	757.4
20°	731.9	733.0	737.0	746.2	747.2
22.5°	715.6	718.7	723.8	733.0	736.0
25°	697.3	701.3	707.5	719.7	721.7
27.5°	679.9	683.0	691.2	704.4	708.5
30°	658.5	663.6	673.8	687.1	692.2
32.5°	638.1	643.2	655.5	669.7	673.8
35°	612.7	619.8	634.1	650.4	655.5
37.5°	588.2	595.3	612.7	631.0	637.1
40°	562.7	570.9	589.2	610.6	618.8
42.5°	535.2	546.4	566.8	590.2	599.4
45°	507.7	517.9	543.3	569.8	580.0
47.5°	478.1	490.3	517.9	549.5	561.7
50°	446.5	461.8	493.4	528.1	541.3
52.5°	414.9	432.2	467.9	506.6	520.9
55°	384.3	400.6	443.4	485.2	500.5
57.5°	350.7	371.1	418.0	462.8	478.1
60°	316.0	338.4	392.5	439.4	455.7
62.5°	281.4	306.8	368.0	414.9	432.2
65°	246.7	275.2	339.5	389.4	406.7
67.5°	213.1	244.7	313.0	362.9	380.2
70°	174.3	214.1	284.4	333.3	350.7
72.5°	138.6	184.5	256.9	302.8	318.1
75°	107.0	156.0	226.3	268.1	274.2
77.5°	78.5	127.4	194.7	209.0	210.0
80°	53.0	101.9	148.8	146.8	148.8
82.5°	34.7	76.5	93.8	105.0	106.0
85°	20.4	44.9	55.0	61.2	62.2
87.5°	10.2	15.3	19.4	20.4	22.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)