

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: P313880

Luminaire Tested: **24FCZ2-35-UNV-L83050-CP187-W2A-U-3000K**

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: P313880
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-35-UNV-L83050-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 3000K 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: 2876.0 lumens
Efficiency: N/A
Efficacy: 103.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

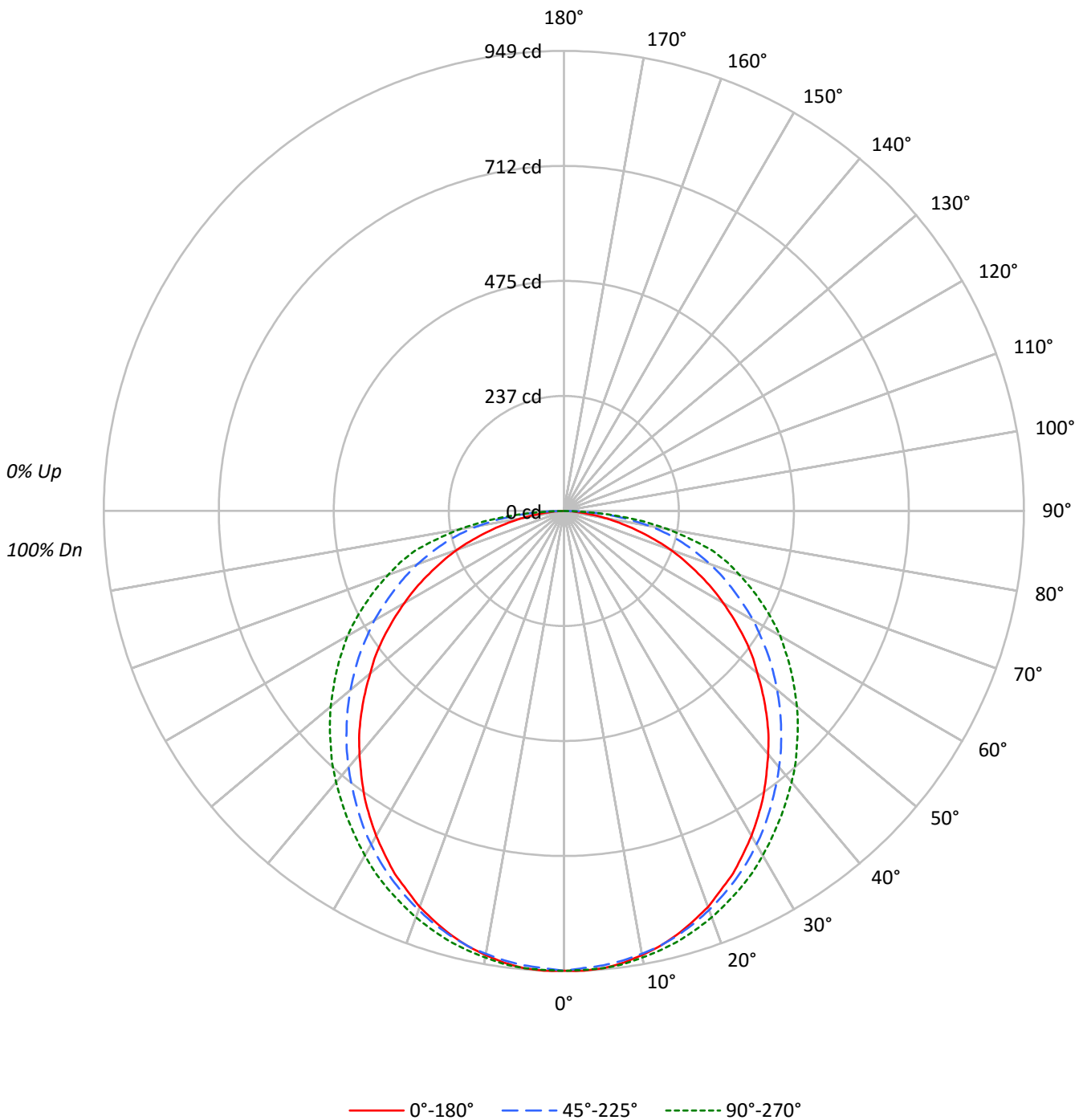
Input Watts (W): 27.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	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	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1276	1276	1276
5°	1279	1271	1279
10°	1271	1267	1278
15°	1260	1263	1279
20°	1245	1254	1277
25°	1225	1245	1276
30°	1202	1235	1275
35°	1179	1223	1276
40°	1151	1213	1284
45°	1124	1206	1294
50°	1091	1202	1314
55°	1063	1204	1341
60°	1022	1214	1387
65°	975	1227	1437
70°	923	1265	1517
75°	823	1319	1657
80°	702	1397	1693
85°	500	1385	1621



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.8	3.1
10°-20°	256.7	8.9
20°-30°	387.7	13.5
30°-40°	467.2	16.2
40°-50°	490.5	17.1
50°-60°	458.9	16.0
60°-70°	379.0	13.2
70°-80°	258.2	9.0
80°-90°	88.1	3.1
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°	734.1	25.5
0°-40°	1201.3	41.8
0°-60°	2150.7	74.8
0°-90°	2876.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2876.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	948	948	948	948	948	
5°	947	946	941	947	947	90
15°	905	906	906	916	918	255
25°	825	829	839	855	860	380
35°	718	725	744	769	777	448
45°	591	603	634	668	680	456
55°	453	471	513	555	572	405
65°	306	332	386	434	451	304
75°	158	195	254	302	319	169
85°	32	64	90	101	105	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	948.5	948.5	948.5	948.5	948.5
2.5°	949.4	948.5	943.7	948.5	947.5
5°	946.6	945.6	940.8	946.6	946.6
7.5°	939.9	939.9	935.1	941.8	942.8
10°	930.3	930.3	927.5	935.1	935.1
12.5°	918.9	918.9	918.9	926.5	927.5
15°	904.6	905.5	906.5	916.0	917.9
17.5°	887.4	889.3	892.2	903.6	905.5
20°	869.3	871.2	876.0	889.3	892.2
22.5°	846.4	851.2	857.8	873.1	876.0
25°	825.4	829.2	838.7	855.0	859.7
27.5°	799.6	805.3	817.8	834.9	841.6
30°	773.9	779.6	794.9	814.9	820.6
32.5°	746.2	754.8	771.0	792.0	798.7
35°	717.6	725.2	744.3	769.1	776.7
37.5°	686.1	696.6	717.6	744.3	753.8
40°	655.5	667.0	690.8	719.5	730.9
42.5°	625.0	636.5	663.2	695.6	707.1
45°	590.7	603.1	633.6	667.9	680.3
47.5°	556.3	571.6	605.0	641.2	654.6
50°	521.0	538.2	574.4	612.6	627.9
52.5°	489.5	505.7	543.9	584.9	599.2
55°	453.2	471.4	513.4	555.3	571.6
57.5°	416.0	436.1	480.9	526.7	542.9
60°	379.8	401.7	451.3	497.1	515.3
62.5°	344.5	366.4	417.9	465.7	483.8
65°	306.3	332.1	385.5	434.2	451.3
67.5°	270.0	297.7	354.0	401.7	418.9
70°	234.7	261.5	321.6	368.3	385.5
72.5°	196.6	227.1	287.2	335.9	354.0
75°	158.4	194.7	253.8	301.5	318.7
77.5°	123.1	160.3	219.5	258.6	267.2
80°	90.6	128.8	180.3	208.0	218.5
82.5°	58.2	96.4	137.4	157.4	166.0
85°	32.4	63.9	89.7	101.1	105.0
87.5°	13.4	27.7	36.3	41.0	41.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)