

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: P313133

Luminaire Tested: **24FCZ2-35-UNV-L83050-HRP-CP187-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: P313133
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: 24FCZ2-35-UNV-L83050-HRP-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 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: 2506.0 lumens
Efficiency: N/A
Efficacy: 85.2 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

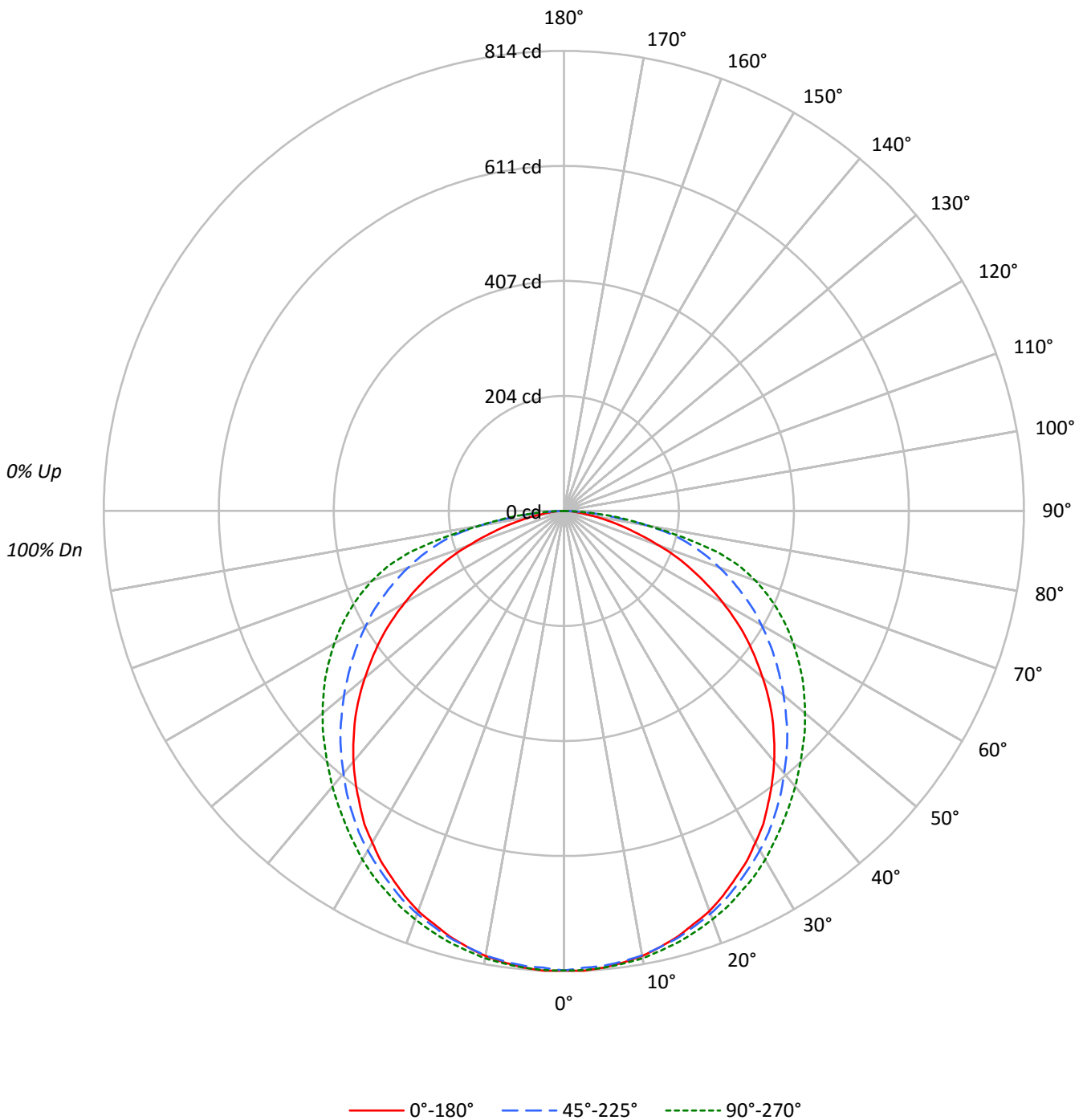
Input Watts (W): 29.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1094	1094	1094
5°	1095	1091	1095
10°	1092	1091	1098
15°	1086	1089	1099
20°	1079	1086	1101
25°	1065	1081	1103
30°	1053	1077	1107
35°	1036	1072	1108
40°	1017	1065	1118
45°	994	1064	1136
50°	962	1063	1166
55°	928	1071	1208
60°	875	1087	1262
65°	808	1112	1333
70°	706	1151	1420
75°	573	1211	1467
80°	423	1187	1187
85°	324	875	988



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.0	3.1
10°-20°	221.2	8.8
20°-30°	336.7	13.4
30°-40°	408.9	16.3
40°-50°	432.0	17.2
50°-60°	407.6	16.3
60°-70°	338.9	13.5
70°-80°	223.0	8.9
80°-90°	60.8	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°	634.9	25.3
0°-40°	1043.8	41.7
0°-60°	1883.4	75.2
0°-90°	2506.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2506.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	813	813	813	813	813	
5°	811	811	808	811	811	77
15°	780	781	782	789	789	220
25°	718	722	728	741	743	331
35°	630	638	653	669	675	395
45°	522	533	559	586	597	402
55°	396	412	456	499	515	352
65°	254	283	349	401	419	251
75°	110	160	233	276	282	119
85°	21	46	57	63	64	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	813.1	813.1	813.1	813.1	813.1
2.5°	814.1	813.1	808.9	813.1	813.1
5°	811.0	811.0	807.8	811.0	811.0
7.5°	805.7	805.7	803.6	807.8	807.8
10°	799.4	799.4	798.4	803.6	803.6
12.5°	790.0	791.0	790.0	796.3	796.3
15°	779.5	780.6	781.6	788.9	788.9
17.5°	765.9	768.0	770.1	778.5	779.5
20°	753.3	754.3	758.5	768.0	769.0
22.5°	736.5	739.6	744.9	754.3	757.5
25°	717.6	721.8	728.1	740.7	742.8
27.5°	699.8	702.9	711.3	724.9	729.1
30°	677.7	683.0	693.5	707.1	712.4
32.5°	656.8	662.0	674.6	689.3	693.5
35°	630.5	637.9	652.6	669.3	674.6
37.5°	605.3	612.7	630.5	649.4	655.7
40°	579.1	587.5	606.4	628.4	636.8
42.5°	550.8	562.3	583.3	607.4	616.9
45°	522.5	533.0	559.2	586.5	597.0
47.5°	492.0	504.6	533.0	565.5	578.1
50°	459.5	475.3	507.8	543.4	557.1
52.5°	427.0	444.8	481.5	521.4	536.1
55°	395.5	412.3	456.4	499.4	515.1
57.5°	360.9	381.9	430.1	476.3	492.0
60°	325.2	348.3	403.9	452.2	469.0
62.5°	289.6	315.8	378.7	427.0	444.8
65°	253.9	283.3	349.4	400.8	418.6
67.5°	219.3	251.8	322.1	373.5	391.3
70°	179.4	220.3	292.7	343.1	360.9
72.5°	142.7	189.9	264.4	311.6	327.3
75°	110.2	160.5	232.9	275.9	282.2
77.5°	80.8	131.1	200.4	215.1	216.1
80°	54.6	104.9	153.2	151.1	153.2
82.5°	35.7	78.7	96.5	108.1	109.1
85°	21.0	46.2	56.7	62.9	64.0
87.5°	10.5	15.7	19.9	21.0	23.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)