

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: P314205

Luminaire Tested: **24FCZ2-30-UNV-L83050-S-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: P314205
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-30-UNV-L83050-S-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH 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: 2576.0 lumens
Efficiency: N/A
Efficacy: 110.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

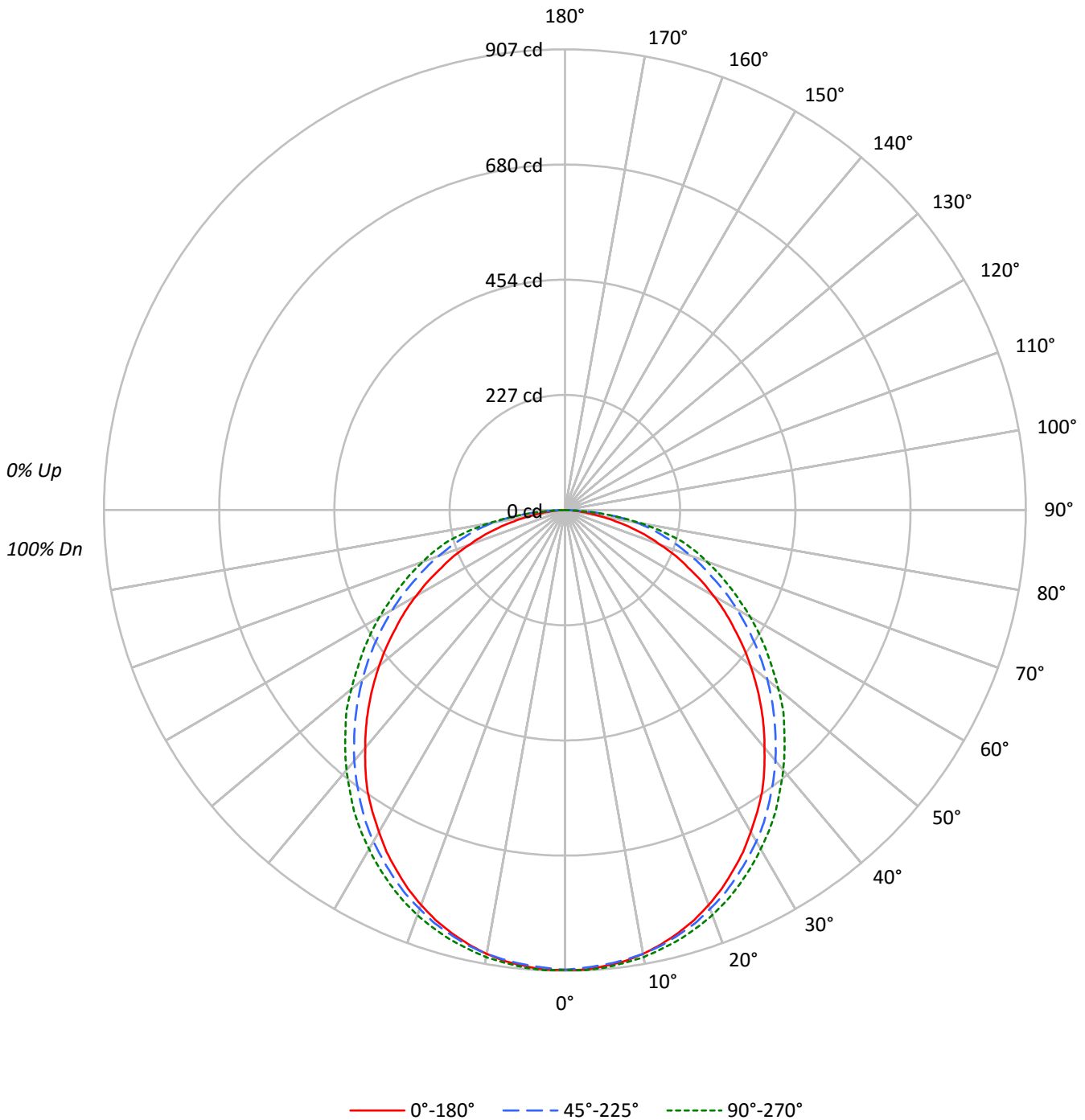
Input Watts (W): 23.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1218	1218	1218
5°	1217	1213	1221
10°	1212	1212	1221
15°	1200	1206	1218
20°	1184	1196	1215
25°	1162	1184	1207
30°	1136	1171	1198
35°	1112	1152	1188
40°	1074	1133	1174
45°	1039	1110	1161
50°	998	1089	1147
55°	954	1069	1136
60°	909	1052	1134
65°	852	1034	1141
70°	789	1040	1172
75°	706	1059	1238
80°	570	1122	1211
85°	429	985	960



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.7	3.3
10°-20°	244.8	9.5
20°-30°	368.0	14.3
30°-40°	438.3	17.0
40°-50°	448.6	17.4
50°-60°	403.9	15.7
60°-70°	317.2	12.3
70°-80°	205.9	8.0
80°-90°	63.7	2.5
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°	698.5	27.1
0°-40°	1136.8	44.1
0°-60°	1989.3	77.2
0°-90°	2576.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2576.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	905	905	905	905	905	
5°	901	902	898	903	904	86
15°	862	864	866	873	875	243
25°	783	790	798	811	813	361
35°	677	685	701	718	723	422
45°	546	559	583	606	610	421
55°	407	425	456	480	484	365
65°	268	288	325	352	358	266
75°	136	162	204	232	238	144
85°	28	52	64	62	62	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	905.0	905.0	905.0	905.0	905.0
2.5°	905.8	905.8	901.7	905.8	906.6
5°	900.9	902.5	898.4	903.3	904.1
7.5°	896.0	896.0	893.5	898.4	899.2
10°	887.0	887.8	887.0	892.7	893.5
12.5°	875.5	877.1	878.0	883.7	884.5
15°	861.6	864.1	865.7	873.1	874.7
17.5°	846.1	848.5	852.6	860.8	862.4
20°	827.2	830.5	835.4	846.1	848.5
22.5°	806.8	810.1	818.2	828.1	832.1
25°	783.0	789.6	797.8	810.9	813.3
27.5°	759.3	765.0	775.7	789.6	792.9
30°	731.5	740.5	753.6	767.5	770.8
32.5°	704.5	713.5	729.0	743.8	747.9
35°	676.7	684.9	701.2	718.4	723.3
37.5°	644.8	655.4	673.4	690.6	695.5
40°	611.2	624.3	644.8	662.8	668.5
42.5°	579.3	593.2	613.7	633.3	639.9
45°	545.8	558.9	583.4	605.5	610.4
47.5°	511.4	526.1	552.3	574.4	582.6
50°	477.0	492.6	520.4	543.3	548.2
52.5°	442.7	459.0	488.5	513.0	515.5
55°	406.7	424.7	455.8	479.5	484.4
57.5°	373.9	389.5	423.0	447.6	453.3
60°	337.9	355.1	391.1	414.0	421.4
62.5°	303.6	321.6	359.2	382.1	388.7
65°	267.6	288.0	324.8	351.8	358.4
67.5°	236.5	256.1	295.4	321.6	328.1
70°	200.5	222.6	264.3	291.3	297.8
72.5°	169.4	192.3	234.0	260.2	270.0
75°	135.8	162.0	203.7	231.6	238.1
77.5°	103.1	133.4	175.9	197.2	197.2
80°	73.6	105.6	144.8	154.6	156.3
82.5°	48.3	79.4	107.2	106.4	106.4
85°	27.8	51.5	63.8	62.2	62.2
87.5°	10.6	21.3	22.9	22.9	22.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)