

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: P311212

Luminaire Tested: **24FCZ2-30-UNV-L82765-S-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: P311212
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-L82765-S-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 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: 2845.0 lumens
Efficiency: N/A
Efficacy: 121.1 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

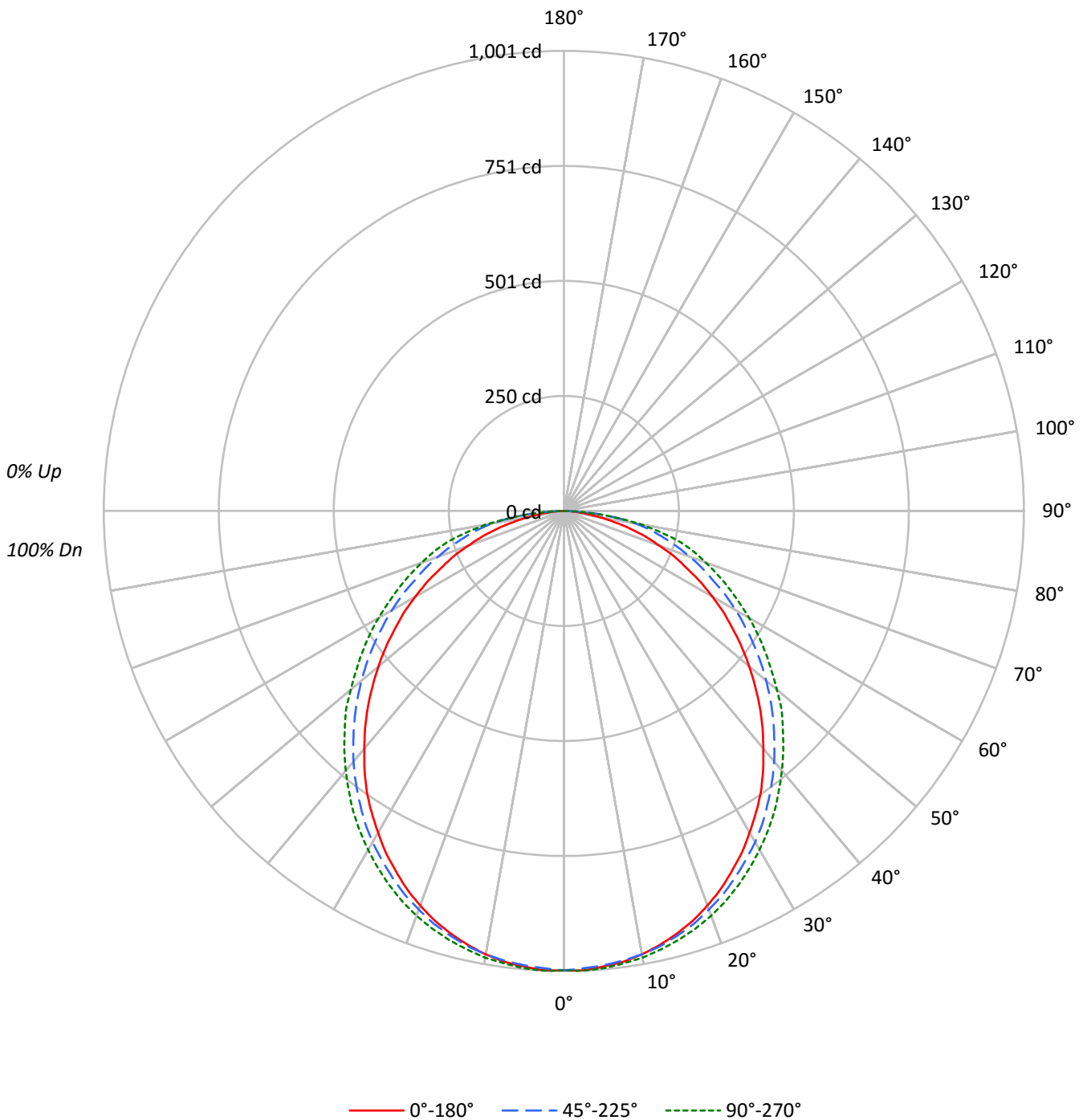
Input Watts (W): 23.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1345	1345	1345
5°	1344	1340	1349
10°	1338	1338	1348
15°	1326	1332	1346
20°	1308	1321	1342
25°	1284	1308	1334
30°	1255	1293	1323
35°	1227	1272	1312
40°	1186	1251	1297
45°	1147	1226	1283
50°	1103	1203	1267
55°	1053	1181	1255
60°	1004	1163	1252
65°	941	1142	1260
70°	871	1148	1294
75°	780	1170	1367
80°	630	1240	1337
85°	474	1088	1061



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.6	3.3
10°-20°	270.4	9.5
20°-30°	406.4	14.3
30°-40°	484.1	17.0
40°-50°	495.5	17.4
50°-60°	446.1	15.7
60°-70°	350.3	12.3
70°-80°	227.4	8.0
80°-90°	70.3	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°	771.4	27.1
0°-40°	1255.5	44.1
0°-60°	2197.0	77.2
0°-90°	2845.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2845.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1000	1000	1000	1000	1000	
5°	995	997	992	998	999	95
15°	952	954	956	964	966	268
25°	865	872	881	896	898	398
35°	747	756	774	793	799	466
45°	603	617	644	669	674	465
55°	449	469	503	530	535	403
65°	296	318	359	389	396	294
75°	150	179	225	256	263	159
85°	31	57	70	69	69	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	999.5	999.5	999.5	999.5	999.5
2.5°	1000.4	1000.4	995.9	1000.4	1001.3
5°	994.9	996.8	992.2	997.7	998.6
7.5°	989.5	989.5	986.8	992.2	993.1
10°	979.6	980.5	979.6	985.9	986.8
12.5°	966.9	968.7	969.6	976.0	976.9
15°	951.6	954.3	956.1	964.2	966.0
17.5°	934.4	937.1	941.6	950.7	952.5
20°	913.6	917.2	922.7	934.4	937.1
22.5°	891.0	894.6	903.7	914.5	919.0
25°	864.8	872.0	881.1	895.5	898.3
27.5°	838.6	844.9	856.7	872.0	875.7
30°	807.9	817.8	832.3	847.6	851.3
32.5°	778.1	788.0	805.2	821.4	826.0
35°	747.3	756.4	774.5	793.4	798.9
37.5°	712.1	723.8	743.7	762.7	768.1
40°	675.0	689.5	712.1	732.0	738.3
42.5°	639.8	655.2	677.8	699.4	706.7
45°	602.8	617.2	644.3	668.7	674.1
47.5°	564.8	581.1	610.0	634.4	643.4
50°	526.8	544.0	574.7	600.0	605.5
52.5°	488.9	507.0	539.5	566.6	569.3
55°	449.1	469.0	503.3	529.6	535.0
57.5°	413.0	430.2	467.2	494.3	500.6
60°	373.2	392.2	432.0	457.3	465.4
62.5°	335.3	355.1	396.7	422.0	429.2
65°	295.5	318.1	358.8	388.6	395.8
67.5°	261.2	282.9	326.2	355.1	362.4
70°	221.4	245.8	291.9	321.7	328.9
72.5°	187.1	212.4	258.5	287.4	298.2
75°	150.0	178.9	225.0	255.7	263.0
77.5°	113.9	147.3	194.3	217.8	217.8
80°	81.3	116.6	160.0	170.8	172.6
82.5°	53.3	87.7	118.4	117.5	117.5
85°	30.7	56.9	70.5	68.7	68.7
87.5°	11.7	23.5	25.3	25.3	24.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)