

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: P311211

Luminaire Tested: **24FCZ2-30-UNV-L82765-S-CA08-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: P311211
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-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC 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: 2750.0 lumens
Efficiency: N/A
Efficacy: 118.5 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

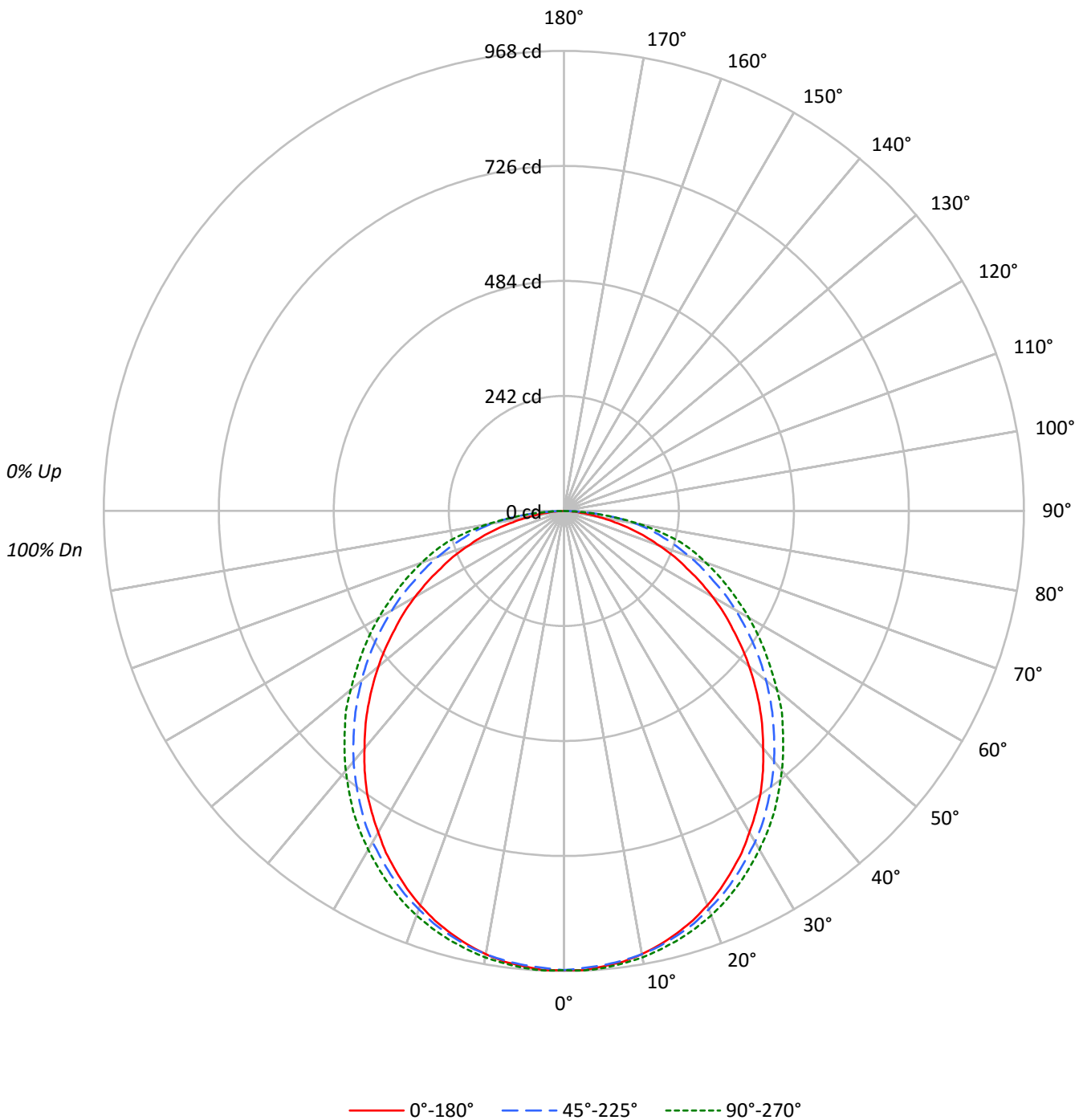
Input Watts (W): 23.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P311211

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-S-CA08-W2A-U-3000K

Luminous Intensity Polar Plot





TEST NUMBER: P311211

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-S-CA08-W2A-U-3000K

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°	1300	1300	1300
5°	1299	1295	1304
10°	1294	1294	1303
15°	1281	1287	1301
20°	1264	1277	1297
25°	1241	1264	1289
30°	1213	1250	1278
35°	1187	1230	1268
40°	1146	1209	1254
45°	1109	1185	1240
50°	1066	1163	1225
55°	1018	1141	1213
60°	971	1123	1211
65°	909	1104	1218
70°	842	1110	1251
75°	754	1131	1321
80°	609	1198	1292
85°	459	1051	1025



TEST NUMBER: P311211

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-S-CA08-W2A-U-3000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.5	3.3
10°-20°	261.3	9.5
20°-30°	392.8	14.3
30°-40°	467.9	17.0
40°-50°	478.9	17.4
50°-60°	431.2	15.7
60°-70°	338.6	12.3
70°-80°	219.8	8.0
80°-90°	68.0	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°	745.6	27.1
0°-40°	1213.6	44.1
0°-60°	2123.7	77.2
0°-90°	2750.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2750.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	966	966	966	966	966	
5°	962	964	959	964	965	91
15°	920	922	924	932	934	259
25°	836	843	852	866	868	385
35°	722	731	749	767	772	451
45°	583	597	623	646	652	449
55°	434	453	486	512	517	389
65°	286	308	347	376	383	284
75°	145	173	218	247	254	153
85°	30	55	68	66	66	36
90°	0	0	0	0	0	



TEST NUMBER: P311211

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-S-CA08-W2A-U-3000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	966.1	966.1	966.1	966.1	966.1
2.5°	967.0	967.0	962.6	967.0	967.8
5°	961.7	963.5	959.1	964.3	965.2
7.5°	956.5	956.5	953.9	959.1	960.0
10°	946.9	947.7	946.9	953.0	953.9
12.5°	934.6	936.4	937.3	943.4	944.3
15°	919.8	922.4	924.2	932.0	933.8
17.5°	903.2	905.8	910.2	918.9	920.7
20°	883.1	886.6	891.8	903.2	905.8
22.5°	861.3	864.8	873.5	884.0	888.4
25°	835.9	842.9	851.7	865.6	868.3
27.5°	810.6	816.7	828.1	842.9	846.4
30°	780.9	790.5	804.5	819.3	822.8
32.5°	752.1	761.7	778.3	794.0	798.4
35°	722.4	731.1	748.6	766.9	772.2
37.5°	688.3	699.7	718.9	737.2	742.5
40°	652.5	666.5	688.3	707.5	713.7
42.5°	618.4	633.3	655.1	676.1	683.1
45°	582.6	596.6	622.8	646.4	651.6
47.5°	545.9	561.7	589.6	613.2	621.9
50°	509.3	525.8	555.5	580.0	585.2
52.5°	472.6	490.0	521.5	547.7	550.3
55°	434.1	453.3	486.5	511.9	517.1
57.5°	399.2	415.8	451.6	477.8	483.9
60°	360.8	379.1	417.5	442.0	449.9
62.5°	324.1	343.3	383.5	407.9	414.9
65°	285.6	307.5	346.8	375.6	382.6
67.5°	252.4	273.4	315.3	343.3	350.3
70°	214.0	237.6	282.1	311.0	318.0
72.5°	180.8	205.3	249.8	277.8	288.3
75°	145.0	173.0	217.5	247.2	254.2
77.5°	110.1	142.4	187.8	210.5	210.5
80°	78.6	112.7	154.6	165.1	166.8
82.5°	51.5	84.7	114.4	113.6	113.6
85°	29.7	55.0	68.1	66.4	66.4
87.5°	11.4	22.7	24.5	24.5	23.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)