

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: P310536

Luminaire Tested: **24FCZ2-30-UNV-L82765-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: P310536
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: 24FCZ2-30-UNV-L82765-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED 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: 2618.0 lumens
Efficiency: N/A
Efficacy: 112.8 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

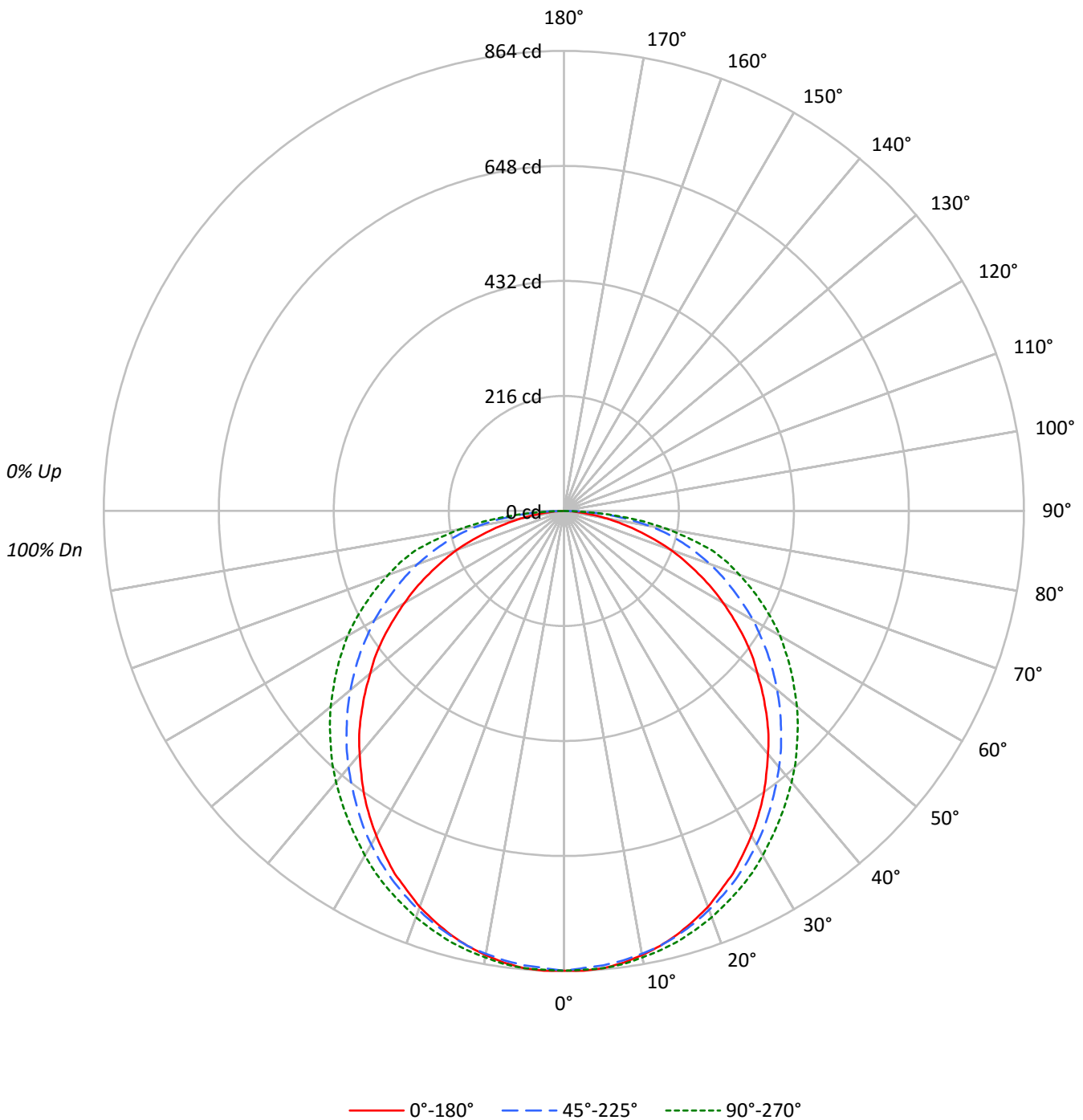
Input Watts (W): 23.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1162	1162	1162
5°	1164	1157	1164
10°	1157	1154	1163
15°	1147	1149	1164
20°	1133	1142	1163
25°	1115	1133	1162
30°	1094	1124	1161
35°	1073	1113	1161
40°	1048	1105	1169
45°	1023	1098	1178
50°	993	1095	1196
55°	968	1096	1221
60°	930	1106	1262
65°	888	1117	1308
70°	841	1151	1380
75°	750	1201	1508
80°	639	1272	1541
85°	455	1260	1474



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.7	3.1
10°-20°	233.6	8.9
20°-30°	352.9	13.5
30°-40°	425.3	16.2
40°-50°	446.5	17.1
50°-60°	417.7	16.0
60°-70°	345.0	13.2
70°-80°	235.1	9.0
80°-90°	80.2	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°	668.2	25.5
0°-40°	1093.6	41.8
0°-60°	1957.8	74.8
0°-90°	2618.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2618.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	863	863	863	863	863	
5°	862	861	856	862	862	82
15°	823	824	825	834	836	232
25°	751	755	764	778	783	346
35°	653	660	678	700	707	408
45°	538	549	577	608	619	415
55°	413	429	467	506	520	368
65°	279	302	351	395	411	277
75°	144	177	231	274	290	154
85°	30	58	82	92	96	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	863.4	863.4	863.4	863.4	863.4
2.5°	864.3	863.4	859.1	863.4	862.5
5°	861.7	860.8	856.4	861.7	861.7
7.5°	855.6	855.6	851.2	857.3	858.2
10°	846.9	846.9	844.3	851.2	851.2
12.5°	836.5	836.5	836.5	843.4	844.3
15°	823.4	824.3	825.2	833.9	835.6
17.5°	807.8	809.5	812.1	822.6	824.3
20°	791.3	793.0	797.4	809.5	812.1
22.5°	770.5	774.8	780.9	794.8	797.4
25°	751.3	754.8	763.5	778.3	782.6
27.5°	727.9	733.1	744.4	760.0	766.1
30°	704.4	709.7	723.5	741.8	747.0
32.5°	679.2	687.1	701.8	720.9	727.0
35°	653.2	660.1	677.5	700.1	707.0
37.5°	624.5	634.1	653.2	677.5	686.2
40°	596.7	607.2	628.9	654.9	665.4
42.5°	568.9	579.4	603.7	633.2	643.6
45°	537.7	549.0	576.8	608.0	619.3
47.5°	506.4	520.3	550.7	583.7	595.9
50°	474.3	489.9	522.9	557.6	571.5
52.5°	445.6	460.4	495.1	532.5	545.5
55°	412.6	429.1	467.3	505.5	520.3
57.5°	378.7	397.0	437.8	479.5	494.2
60°	345.7	365.7	410.9	452.5	469.0
62.5°	313.6	333.5	380.4	423.9	440.4
65°	278.8	302.3	350.9	395.2	410.9
67.5°	245.8	271.0	322.3	365.7	381.3
70°	213.7	238.0	292.7	335.3	350.9
72.5°	178.9	206.7	261.5	305.7	322.3
75°	144.2	177.2	231.0	274.5	290.1
77.5°	112.1	145.9	199.8	235.4	243.2
80°	82.5	117.3	164.2	189.4	198.9
82.5°	53.0	87.7	125.1	143.3	151.1
85°	29.5	58.2	81.6	92.1	95.5
87.5°	12.2	25.2	33.0	37.4	37.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)