

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: P310133

Luminaire Tested: **24FCZ2-45-UNV-L82765-RDP-CA08-W2A-U-4000K**

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: P310133
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-45-UNV-L82765-RDP-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET
Light Source: (168) 4000K 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

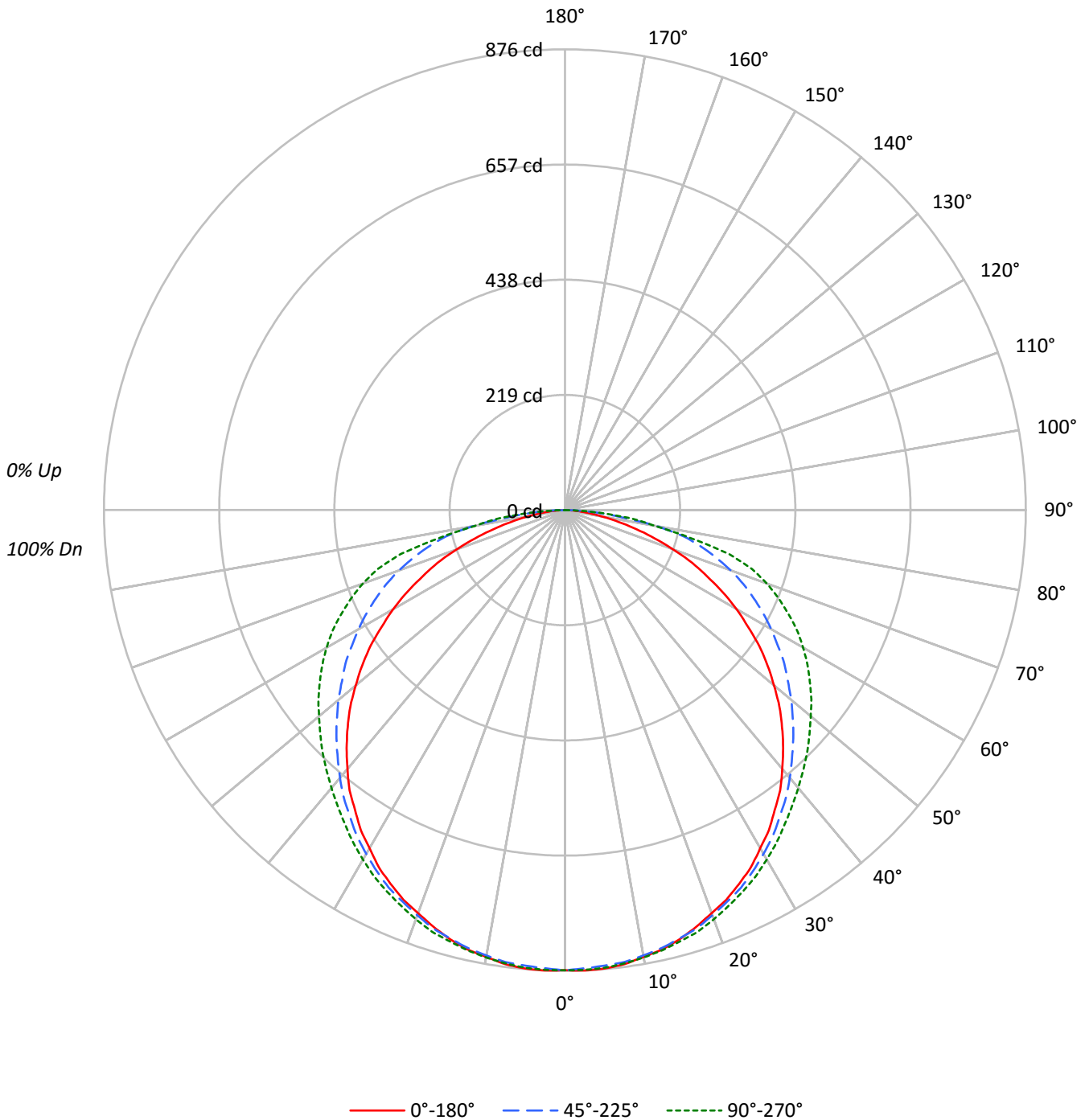
Lumens per Lamp: N/A
Luminaire Lumens: 2782.0 lumens
Efficiency: N/A
Efficacy: 73.2 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 38
Input Voltage (V): NR
Input Current (Ain): 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	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1177	1177	1177
5°	1182	1174	1180
10°	1178	1175	1180
15°	1176	1174	1182
20°	1168	1174	1185
25°	1164	1176	1188
30°	1153	1173	1192
35°	1142	1169	1197
40°	1129	1168	1212
45°	1111	1169	1239
50°	1086	1176	1277
55°	1058	1194	1334
60°	1014	1218	1407
65°	949	1261	1494
70°	863	1319	1607
75°	732	1392	1679
80°	577	1401	1358
85°	426	1065	1193



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.0	3.0
10°-20°	238.8	8.6
20°-30°	365.2	13.1
30°-40°	446.5	16.0
40°-50°	475.9	17.1
50°-60°	455.0	16.4
60°-70°	385.4	13.9
70°-80°	259.0	9.3
80°-90°	73.1	2.6
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°	687.1	24.7
0°-40°	1133.6	40.7
0°-60°	2064.4	74.2
0°-90°	2782.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2782.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	875	875	875	875	875	
5°	875	874	869	874	874	83
15°	844	844	843	850	849	238
25°	784	786	792	799	800	361
35°	696	701	712	726	729	436
45°	584	593	614	640	651	450
55°	451	468	509	549	568	402
65°	298	328	396	448	469	296
75°	141	192	268	313	323	151
85°	28	57	69	74	77	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	874.9	874.9	874.9	874.9	874.9
2.5°	876.2	876.2	872.1	874.9	874.9
5°	874.9	873.5	869.3	873.5	873.5
7.5°	870.7	869.3	866.6	870.7	869.3
10°	862.4	862.4	859.7	863.8	863.8
12.5°	855.5	854.2	852.8	858.3	856.9
15°	844.5	844.5	843.1	850.0	848.6
17.5°	830.7	832.1	833.5	839.0	840.4
20°	815.5	818.3	819.7	827.9	827.9
22.5°	801.7	803.1	805.9	814.1	814.1
25°	783.8	786.5	792.1	799.0	800.3
27.5°	765.8	767.2	774.1	783.8	785.2
30°	742.4	746.5	754.8	765.8	767.2
32.5°	721.7	725.8	735.5	746.5	749.3
35°	695.5	701.0	712.0	725.8	728.6
37.5°	672.0	676.2	690.0	705.1	709.3
40°	643.0	651.3	665.1	683.1	690.0
42.5°	614.1	622.3	638.9	662.4	670.6
45°	583.7	593.4	614.1	640.3	651.3
47.5°	553.3	564.4	587.8	618.2	630.6
50°	518.8	532.6	561.6	596.1	609.9
52.5°	485.7	502.3	534.0	572.7	590.6
55°	451.2	467.8	509.2	549.2	568.5
57.5°	412.6	434.7	480.2	525.7	546.4
60°	376.7	397.4	452.6	502.3	523.0
62.5°	338.1	365.7	425.0	477.4	498.1
65°	298.1	328.4	396.0	448.5	469.2
67.5°	262.2	295.3	367.1	419.5	440.2
70°	219.4	260.8	335.3	387.8	408.5
72.5°	179.4	224.9	302.2	353.3	372.6
75°	140.8	191.8	267.7	313.2	322.9
77.5°	104.9	158.7	231.8	251.1	244.2
80°	74.5	127.0	180.8	171.1	175.2
82.5°	48.3	96.6	111.8	127.0	131.1
85°	27.6	56.6	69.0	74.5	77.3
87.5°	12.4	20.7	27.6	27.6	26.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)