

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: P313165

Luminaire Tested: **24FCZ2-40-UNV-L83050-HRP-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: P313165  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-40-UNV-L83050-HRP-CA08-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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**

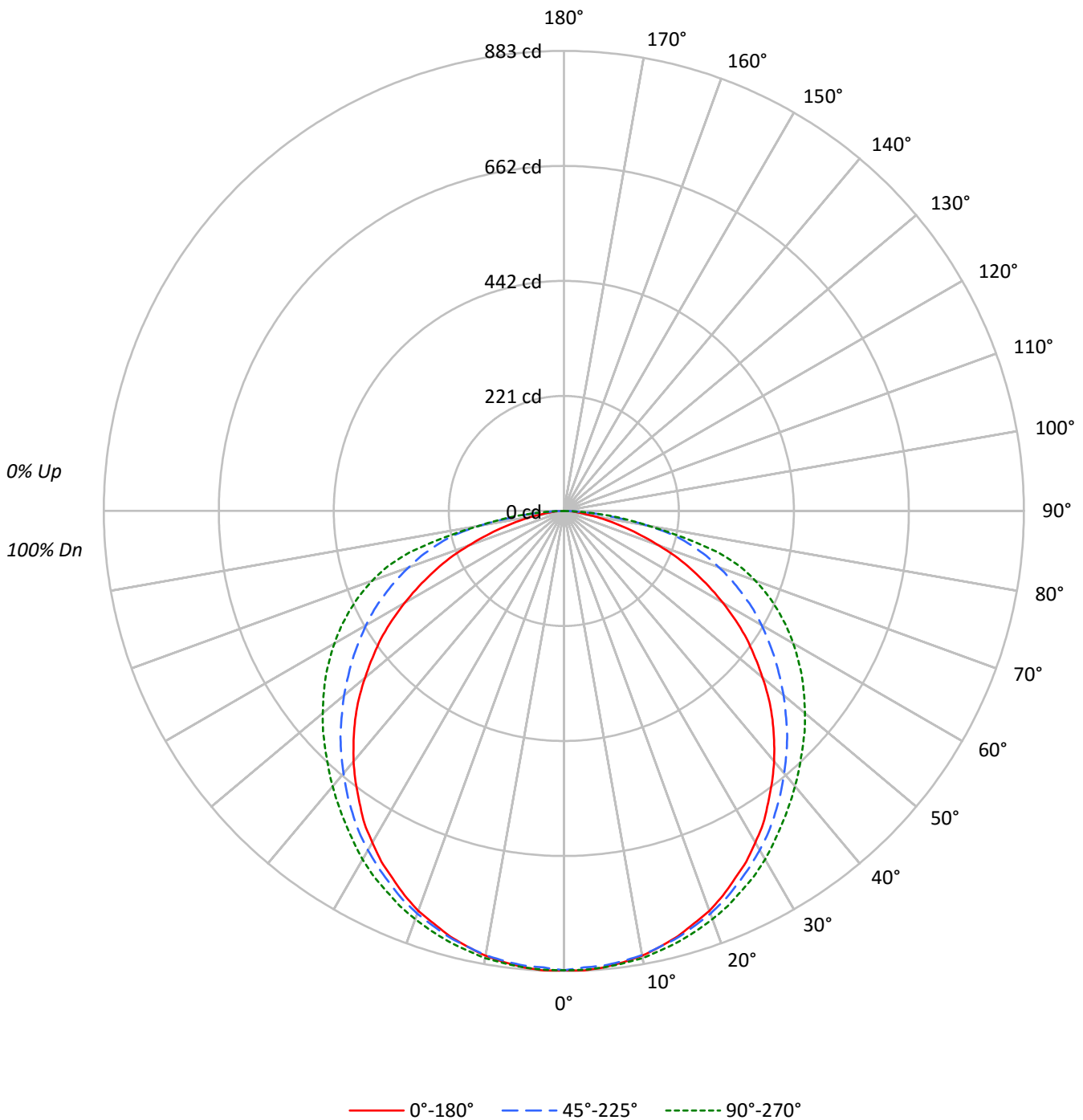
Lumens per Lamp: N/A  
Luminaire Lumens: 2717.0 lumens  
Efficiency: N/A  
Efficacy: 83.3 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 32.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1186	1186	1186
5°	1188	1183	1188
10°	1184	1183	1190
15°	1177	1180	1192
20°	1169	1178	1194
25°	1155	1172	1196
30°	1142	1168	1200
35°	1123	1162	1201
40°	1103	1155	1213
45°	1078	1154	1231
50°	1043	1152	1264
55°	1006	1161	1310
60°	949	1178	1368
65°	876	1206	1445
70°	765	1249	1539
75°	621	1313	1591
80°	458	1287	1287
85°	350	948	1071



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.5	3.1
10°-20°	239.8	8.8
20°-30°	365.1	13.4
30°-40°	443.3	16.3
40°-50°	468.3	17.2
50°-60°	441.9	16.3
60°-70°	367.4	13.5
70°-80°	241.7	8.9
80°-90°	65.9	2.4
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°	688.4	25.3
0°-40°	1131.7	41.7
0°-60°	2041.9	75.2
0°-90°	2717.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2717.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	882	882	882	882	882	
5°	879	879	876	879	879	84
15°	845	846	847	855	855	238
25°	778	783	789	803	805	359
35°	684	692	708	726	731	428
45°	566	578	606	636	647	436
55°	429	447	495	541	558	382
65°	275	307	379	434	454	272
75°	119	174	252	299	306	129
85°	23	50	61	68	69	28
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	881.5	881.5	881.5	881.5	881.5
2.5°	882.7	881.5	877.0	881.5	881.5
5°	879.3	879.3	875.8	879.3	879.3
7.5°	873.6	873.6	871.3	875.8	875.8
10°	866.7	866.7	865.6	871.3	871.3
12.5°	856.5	857.6	856.5	863.3	863.3
15°	845.1	846.3	847.4	855.4	855.4
17.5°	830.3	832.6	834.9	844.0	845.1
20°	816.7	817.8	822.4	832.6	833.8
22.5°	798.5	801.9	807.6	817.8	821.2
25°	778.0	782.6	789.4	803.0	805.3
27.5°	758.7	762.1	771.2	786.0	790.5
30°	734.8	740.5	751.9	766.6	772.3
32.5°	712.1	717.7	731.4	747.3	751.9
35°	683.6	691.6	707.5	725.7	731.4
37.5°	656.3	664.3	683.6	704.1	710.9
40°	627.9	637.0	657.5	681.3	690.4
42.5°	597.2	609.7	632.4	658.6	668.8
45°	566.5	577.8	606.3	635.8	647.2
47.5°	533.5	547.1	577.8	613.1	626.7
50°	498.2	515.3	550.5	589.2	604.0
52.5°	462.9	482.3	522.1	565.3	581.2
55°	428.8	447.0	494.8	541.4	558.5
57.5°	391.3	414.0	466.4	516.4	533.5
60°	352.6	377.6	437.9	490.2	508.4
62.5°	313.9	342.4	410.6	462.9	482.3
65°	275.3	307.1	378.8	434.5	453.8
67.5°	237.7	273.0	349.2	404.9	424.3
70°	194.5	238.9	317.4	371.9	391.3
72.5°	154.7	205.9	286.6	337.8	354.9
75°	119.4	174.0	252.5	299.2	306.0
77.5°	87.6	142.2	217.3	233.2	234.3
80°	59.1	113.7	166.1	163.8	166.1
82.5°	38.7	85.3	104.6	117.2	118.3
85°	22.7	50.0	61.4	68.2	69.4
87.5°	11.4	17.1	21.6	22.7	25.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)