

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: P313658

Luminaire Tested: **24FCZ2-50-UNV-L83050-RDP-CP187-W2A-U-4500K**

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: P313658
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: 24FCZ2-50-UNV-L83050-RDP-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (168) 4500K 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: 3051.0 lumens
Efficiency: N/A
Efficacy: 68.1 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

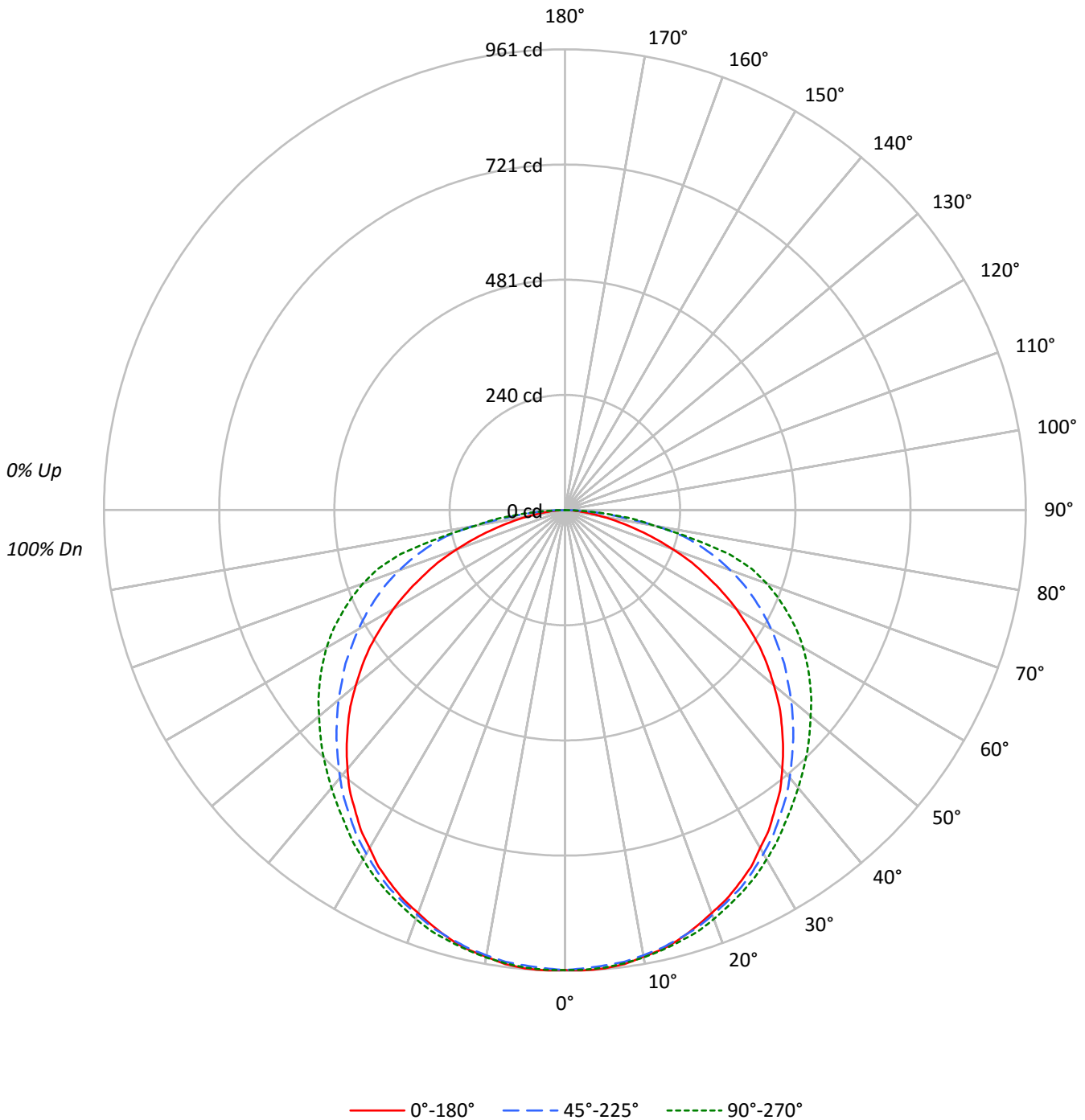
Input Watts (W): 44.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1291	1291	1291
5°	1296	1288	1294
10°	1292	1288	1294
15°	1290	1288	1296
20°	1281	1287	1300
25°	1276	1290	1303
30°	1265	1286	1307
35°	1253	1283	1312
40°	1239	1281	1329
45°	1218	1281	1359
50°	1191	1289	1400
55°	1161	1310	1463
60°	1112	1336	1544
65°	1041	1383	1638
70°	947	1447	1762
75°	803	1526	1841
80°	633	1536	1489
85°	468	1169	1308



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.0	3.0
10°-20°	261.9	8.6
20°-30°	400.6	13.1
30°-40°	489.7	16.0
40°-50°	521.9	17.1
50°-60°	499.0	16.4
60°-70°	422.7	13.9
70°-80°	284.1	9.3
80°-90°	80.1	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°	753.5	24.7
0°-40°	1243.2	40.7
0°-60°	2264.1	74.2
0°-90°	3051.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3051.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	960	960	960	960	960	
5°	960	958	953	958	958	91
15°	926	926	925	932	931	261
25°	860	863	869	876	878	396
35°	763	769	781	796	799	478
45°	640	651	673	702	714	494
55°	495	513	558	602	624	441
65°	327	360	434	492	514	325
75°	154	210	294	344	354	165
85°	30	62	76	82	85	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	959.5	959.5	959.5	959.5	959.5
2.5°	961.0	961.0	956.4	959.5	959.5
5°	959.5	957.9	953.4	957.9	957.9
7.5°	954.9	953.4	950.4	954.9	953.4
10°	945.8	945.8	942.8	947.3	947.3
12.5°	938.3	936.8	935.2	941.3	939.8
15°	926.2	926.2	924.6	932.2	930.7
17.5°	911.0	912.5	914.1	920.1	921.6
20°	894.4	897.4	898.9	908.0	908.0
22.5°	879.2	880.8	883.8	892.9	892.9
25°	859.6	862.6	868.7	876.2	877.7
27.5°	839.9	841.4	849.0	859.6	861.1
30°	814.2	818.7	827.8	839.9	841.4
32.5°	791.5	796.0	806.6	818.7	821.7
35°	762.7	768.8	780.9	796.0	799.0
37.5°	737.0	741.5	756.7	773.3	777.9
40°	705.2	714.3	729.4	749.1	756.7
42.5°	673.4	682.5	700.7	726.4	735.5
45°	640.1	650.7	673.4	702.2	714.3
47.5°	606.8	619.0	644.7	678.0	691.6
50°	569.0	584.1	615.9	653.8	668.9
52.5°	532.7	550.9	585.7	628.0	647.7
55°	494.9	513.0	558.4	602.3	623.5
57.5°	452.5	476.7	526.6	576.6	599.3
60°	413.1	435.8	496.4	550.9	573.6
62.5°	370.8	401.0	466.1	523.6	546.3
65°	326.9	360.2	434.3	491.8	514.5
67.5°	287.5	323.9	402.5	460.1	482.8
70°	240.6	286.0	367.7	425.2	447.9
72.5°	196.7	246.7	331.4	387.4	408.6
75°	154.4	210.4	293.6	343.5	354.1
77.5°	115.0	174.0	254.2	275.4	267.9
80°	81.7	139.2	198.2	187.7	192.2
82.5°	53.0	105.9	122.6	139.2	143.8
85°	30.3	62.0	75.7	81.7	84.7
87.5°	13.6	22.7	30.3	30.3	28.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)