

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: P310930

Luminaire Tested: **24FCZ2-50-UNV-L82765-CP187-W2A-U-6500K**

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: P310930
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: 24FCZ2-50-UNV-L82765-CP187-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 6500K 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: 4473.0 lumens
Efficiency: N/A
Efficacy: 100.3 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

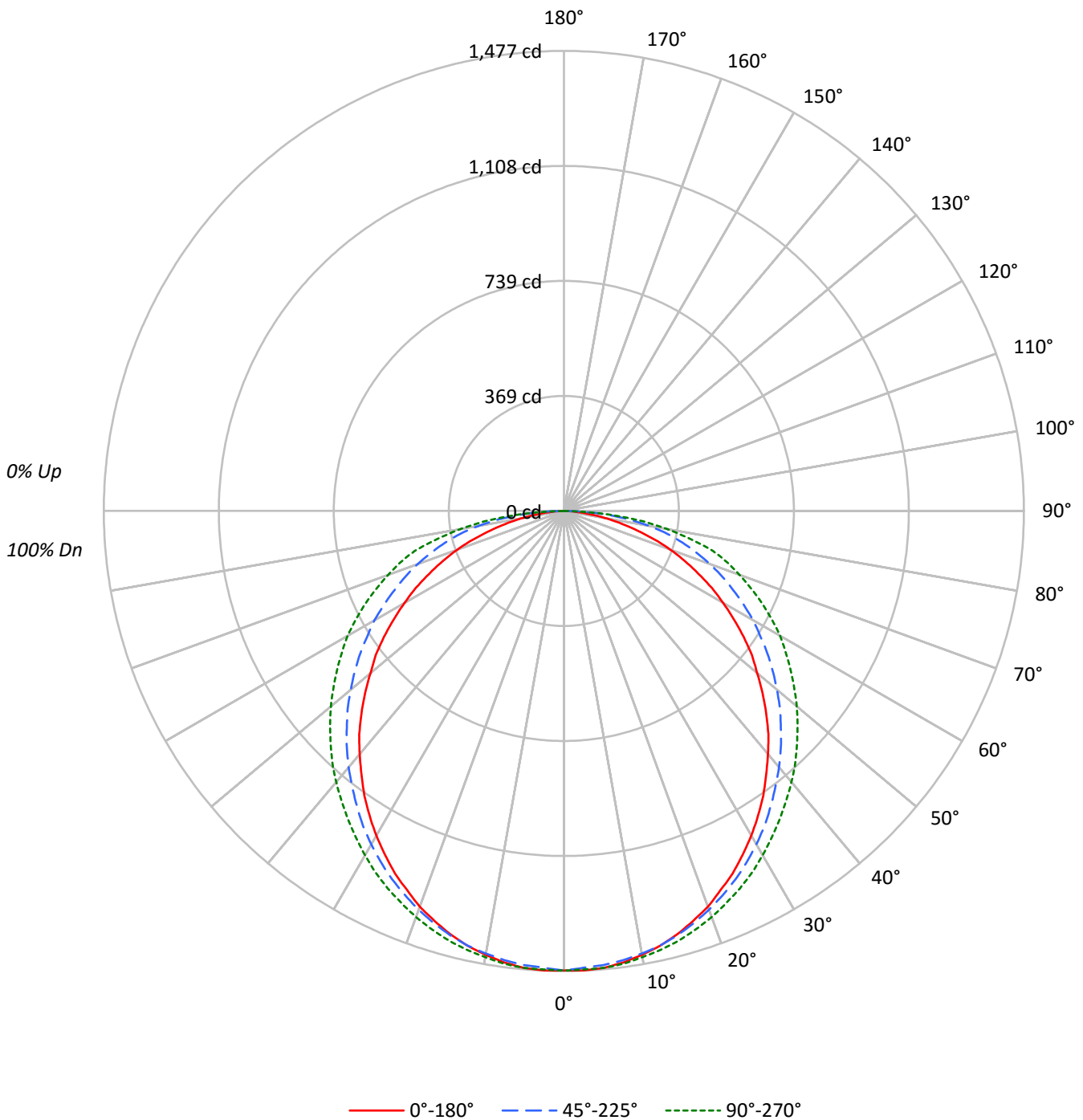
Input Watts (W): 44.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1985	1985	1985
5°	1988	1976	1988
10°	1977	1971	1987
15°	1960	1964	1989
20°	1936	1951	1987
25°	1906	1937	1985
30°	1870	1921	1983
35°	1833	1901	1984
40°	1791	1887	1997
45°	1748	1875	2013
50°	1696	1870	2044
55°	1654	1873	2085
60°	1590	1889	2157
65°	1517	1909	2235
70°	1436	1967	2359
75°	1281	2052	2577
80°	1093	2173	2633
85°	780	2154	2519



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.6	3.1
10°-20°	399.2	8.9
20°-30°	602.9	13.5
30°-40°	726.7	16.2
40°-50°	762.9	17.1
50°-60°	713.7	16.0
60°-70°	589.4	13.2
70°-80°	401.6	9.0
80°-90°	137.0	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°	1141.7	25.5
0°-40°	1868.4	41.8
0°-60°	3345.0	74.8
0°-90°	4473.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4473.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1475	1475	1475	1475	1475	
5°	1472	1471	1463	1472	1472	140
15°	1407	1408	1410	1425	1428	397
25°	1284	1290	1304	1330	1337	591
35°	1116	1128	1158	1196	1208	697
45°	919	938	985	1039	1058	708
55°	705	733	798	864	889	629
65°	476	516	600	675	702	473
75°	246	303	395	469	496	263
85°	50	99	140	157	163	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1475.2	1475.2	1475.2	1475.2	1475.2
2.5°	1476.6	1475.2	1467.7	1475.2	1473.7
5°	1472.2	1470.7	1463.3	1472.2	1472.2
7.5°	1461.8	1461.8	1454.4	1464.8	1466.3
10°	1447.0	1447.0	1442.5	1454.4	1454.4
12.5°	1429.2	1429.2	1429.2	1441.0	1442.5
15°	1406.9	1408.4	1409.9	1424.7	1427.7
17.5°	1380.2	1383.1	1387.6	1405.4	1408.4
20°	1352.0	1354.9	1362.4	1383.1	1387.6
22.5°	1316.4	1323.8	1334.2	1357.9	1362.4
25°	1283.7	1289.6	1304.5	1329.7	1337.1
27.5°	1243.6	1252.5	1271.8	1298.6	1308.9
30°	1203.6	1212.5	1236.2	1267.4	1276.3
32.5°	1160.5	1173.9	1199.1	1231.8	1242.2
35°	1116.0	1127.9	1157.6	1196.2	1208.0
37.5°	1067.0	1083.4	1116.0	1157.6	1172.4
40°	1019.5	1037.4	1074.5	1119.0	1136.8
42.5°	972.1	989.9	1031.4	1081.9	1099.7
45°	918.6	937.9	985.4	1038.8	1058.1
47.5°	865.2	889.0	940.9	997.3	1018.1
50°	810.3	837.0	893.4	952.8	976.5
52.5°	761.3	786.6	845.9	909.7	932.0
55°	704.9	733.1	798.4	863.7	889.0
57.5°	647.1	678.2	748.0	819.2	844.4
60°	590.7	624.8	702.0	773.2	801.4
62.5°	535.7	569.9	650.0	724.2	752.4
65°	476.4	516.5	599.6	675.2	702.0
67.5°	420.0	463.0	550.6	624.8	651.5
70°	365.1	406.6	500.1	572.8	599.6
72.5°	305.7	353.2	446.7	522.4	550.6
75°	246.4	302.7	394.8	469.0	495.7
77.5°	191.4	249.3	341.3	402.2	415.5
80°	141.0	200.3	280.5	323.5	339.8
82.5°	90.5	149.9	213.7	244.9	258.2
85°	50.5	99.4	139.5	157.3	163.2
87.5°	20.8	43.0	56.4	63.8	63.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)