

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: P311597

Luminaire Tested: **24FCZ2-50-UNV-L82765-S-CP187-W2A-U-2700K**

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: P311597
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
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-S-CP187-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 2700K 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: 4126.0 lumens
Efficiency: N/A
Efficacy: 96.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

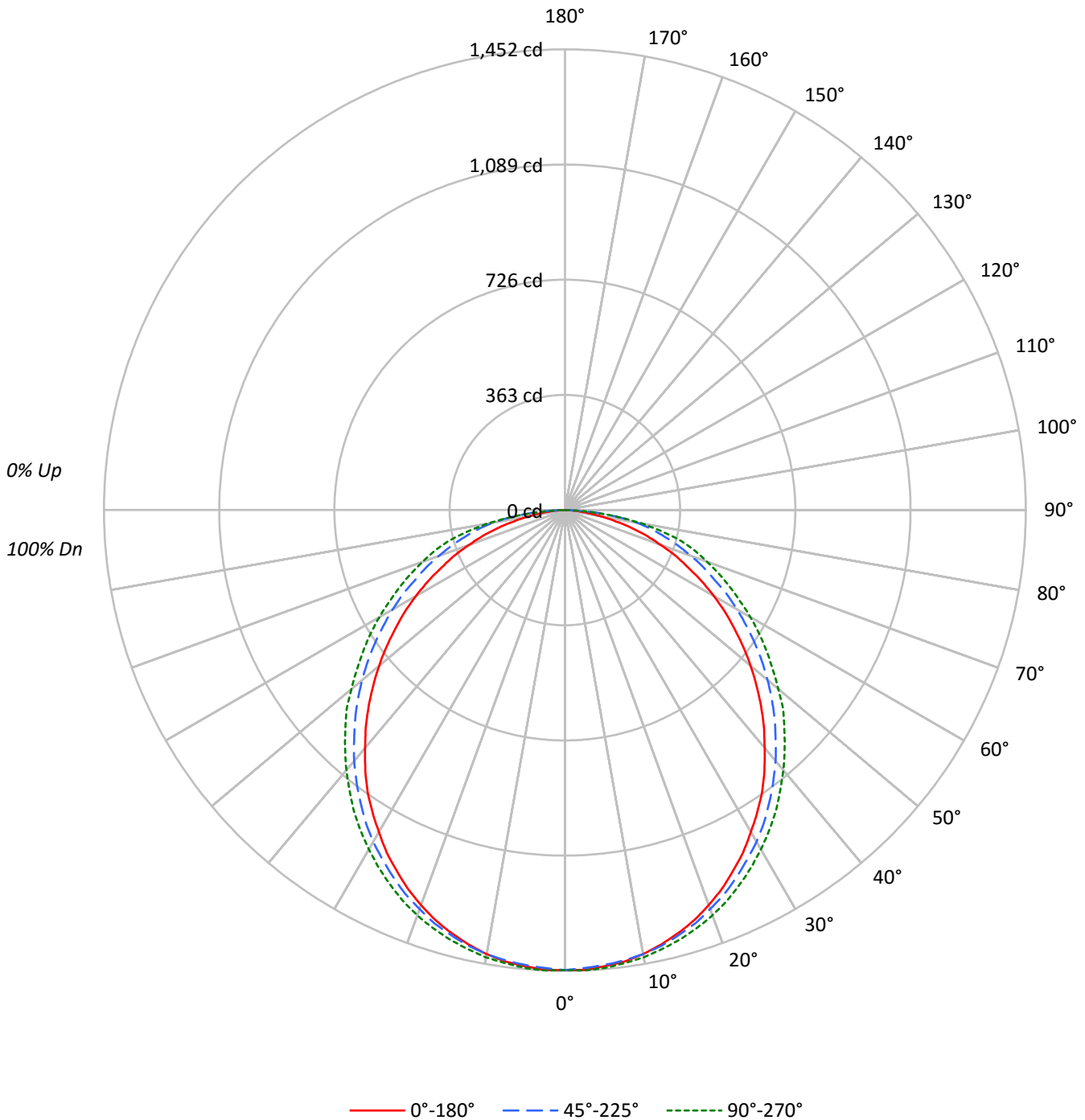
Input Watts (W): 42.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1950	1950	1950
5°	1949	1944	1956
10°	1941	1941	1955
15°	1922	1931	1952
20°	1897	1916	1946
25°	1862	1897	1934
30°	1820	1875	1918
35°	1780	1845	1903
40°	1720	1814	1881
45°	1663	1778	1860
50°	1599	1745	1838
55°	1528	1712	1820
60°	1457	1686	1816
65°	1365	1656	1827
70°	1263	1665	1876
75°	1131	1696	1983
80°	914	1798	1939
85°	689	1578	1538



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.2	3.3
10°-20°	392.1	9.5
20°-30°	589.4	14.3
30°-40°	702.1	17.0
40°-50°	718.5	17.4
50°-60°	646.9	15.7
60°-70°	508.0	12.3
70°-80°	329.7	8.0
80°-90°	102.0	2.5
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°	1118.7	27.1
0°-40°	1820.8	44.1
0°-60°	3186.3	77.2
0°-90°	4126.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4126.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1450	1450	1450	1450	1450	
5°	1443	1446	1439	1447	1448	137
15°	1380	1384	1387	1398	1401	389
25°	1254	1265	1278	1299	1303	578
35°	1084	1097	1123	1151	1158	676
45°	874	895	934	970	978	674
55°	651	680	730	768	776	584
65°	429	461	520	564	574	427
75°	218	260	326	371	381	230
85°	45	83	102	100	100	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1449.5	1449.5	1449.5	1449.5	1449.5
2.5°	1450.8	1450.8	1444.2	1450.8	1452.1
5°	1442.9	1445.6	1439.0	1446.9	1448.2
7.5°	1435.1	1435.1	1431.1	1439.0	1440.3
10°	1420.7	1422.0	1420.7	1429.8	1431.1
12.5°	1402.3	1404.9	1406.2	1415.4	1416.7
15°	1380.0	1384.0	1386.6	1398.4	1401.0
17.5°	1355.1	1359.1	1365.6	1378.7	1381.3
20°	1325.0	1330.2	1338.1	1355.1	1359.1
22.5°	1292.2	1297.5	1310.6	1326.3	1332.9
25°	1254.2	1264.7	1277.8	1298.8	1302.7
27.5°	1216.2	1225.4	1242.4	1264.7	1269.9
30°	1171.6	1186.1	1207.0	1229.3	1234.6
32.5°	1128.4	1142.8	1167.7	1191.3	1197.9
35°	1083.8	1096.9	1123.2	1150.7	1158.5
37.5°	1032.7	1049.8	1078.6	1106.1	1114.0
40°	979.0	1000.0	1032.7	1061.6	1070.7
42.5°	927.9	950.2	982.9	1014.4	1024.9
45°	874.2	895.1	934.4	969.8	977.7
47.5°	819.1	842.7	884.6	920.0	933.1
50°	764.1	789.0	833.5	870.2	878.1
52.5°	709.0	735.2	782.4	821.7	825.7
55°	651.4	680.2	730.0	768.0	775.9
57.5°	598.9	623.8	677.6	716.9	726.1
60°	541.3	568.8	626.5	663.1	674.9
62.5°	486.2	515.1	575.3	612.0	622.5
65°	428.6	461.3	520.3	563.5	574.0
67.5°	378.8	410.2	473.1	515.1	525.5
70°	321.1	356.5	423.3	466.6	477.0
72.5°	271.3	308.0	374.8	416.8	432.5
75°	217.6	259.5	326.3	370.9	381.4
77.5°	165.1	213.6	281.8	315.8	315.8
80°	118.0	169.1	232.0	247.7	250.3
82.5°	77.3	127.1	171.7	170.4	170.4
85°	44.6	82.6	102.2	99.6	99.6
87.5°	17.0	34.1	36.7	36.7	35.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)