

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: P311027

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-CP250-W2A-U-5500K**

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: P311027
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: 24FCZ2-60HE-UNV-L82765-CP250-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 5500K 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: 5322.0 lumens
Efficiency: N/A
Efficacy: 108.8 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

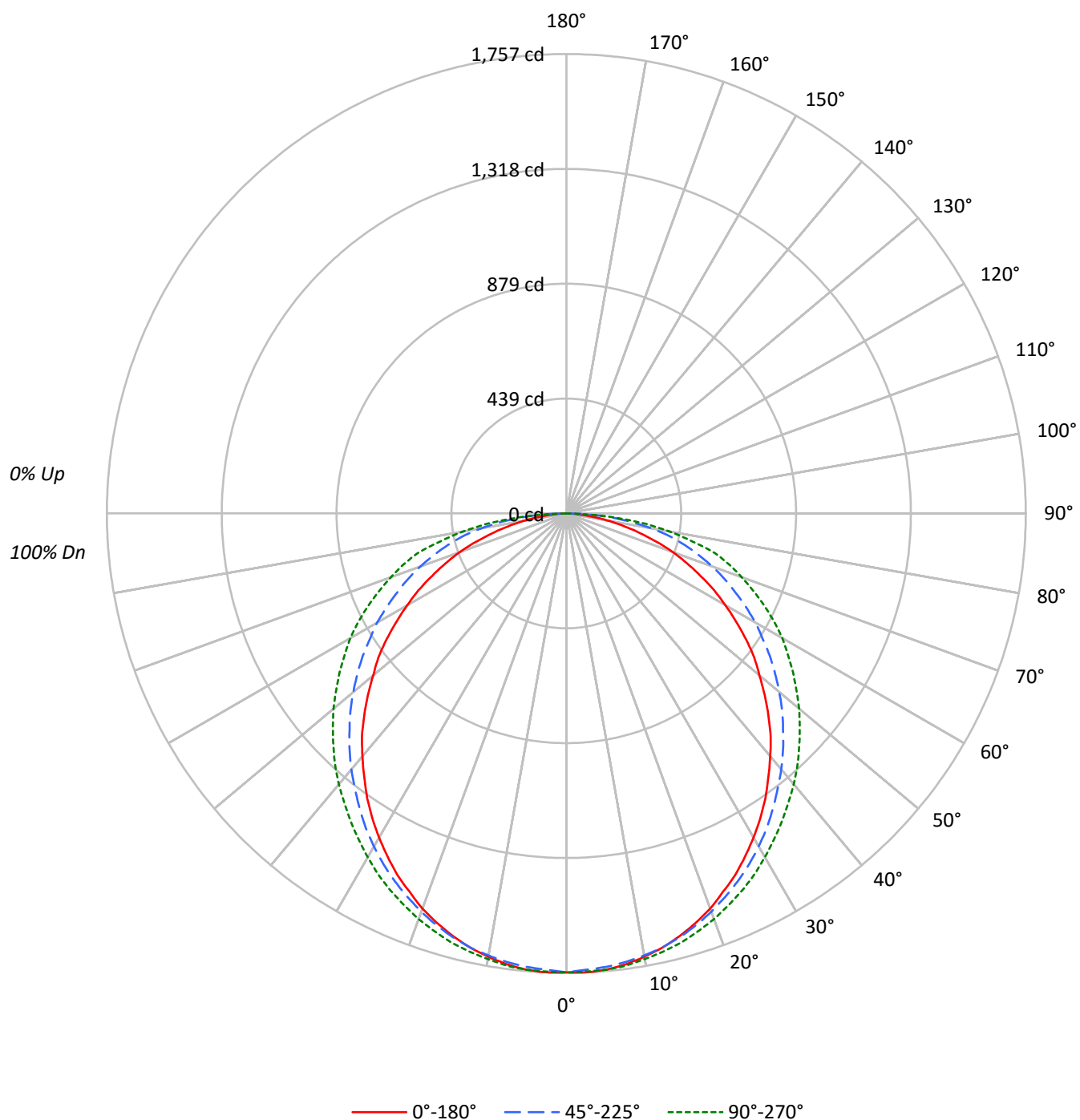
Input Watts (W): 48.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2361	2361	2361
5°	2366	2351	2366
10°	2352	2345	2364
15°	2332	2337	2366
20°	2303	2321	2364
25°	2268	2304	2362
30°	2225	2285	2359
35°	2181	2262	2361
40°	2131	2245	2376
45°	2080	2231	2396
50°	2018	2225	2432
55°	1967	2228	2481
60°	1891	2248	2566
65°	1805	2271	2659
70°	1709	2341	2806
75°	1524	2442	3066
80°	1299	2586	3133
85°	926	2563	2998



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.1	3.1
10°-20°	475.0	8.9
20°-30°	717.4	13.5
30°-40°	864.6	16.2
40°-50°	907.7	17.1
50°-60°	849.2	16.0
60°-70°	701.3	13.2
70°-80°	477.9	9.0
80°-90°	163.0	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°	1358.4	25.5
0°-40°	2223.0	41.8
0°-60°	3979.9	74.8
0°-90°	5322.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5322.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1755	1755	1755	1755	1755	
5°	1752	1750	1741	1752	1752	166
15°	1674	1676	1678	1695	1699	472
25°	1527	1534	1552	1582	1591	703
35°	1328	1342	1377	1423	1437	830
45°	1093	1116	1172	1236	1259	843
55°	839	872	950	1028	1058	749
65°	567	614	713	803	835	562
75°	293	360	470	558	590	313
85°	60	118	166	187	194	75
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1755.1	1755.1	1755.1	1755.1	1755.1
2.5°	1756.9	1755.1	1746.3	1755.1	1753.4
5°	1751.6	1749.9	1741.0	1751.6	1751.6
7.5°	1739.3	1739.3	1730.4	1742.8	1744.6
10°	1721.6	1721.6	1716.3	1730.4	1730.4
12.5°	1700.4	1700.4	1700.4	1714.5	1716.3
15°	1673.9	1675.7	1677.5	1695.1	1698.6
17.5°	1642.1	1645.7	1651.0	1672.2	1675.7
20°	1608.6	1612.1	1621.0	1645.7	1651.0
22.5°	1566.2	1575.0	1587.4	1615.7	1621.0
25°	1527.4	1534.4	1552.1	1582.1	1590.9
27.5°	1479.7	1490.3	1513.2	1545.0	1557.4
30°	1432.0	1442.6	1470.9	1507.9	1518.5
32.5°	1380.8	1396.7	1426.7	1465.6	1477.9
35°	1327.8	1342.0	1377.3	1423.2	1437.3
37.5°	1269.6	1289.0	1327.8	1377.3	1394.9
40°	1213.1	1234.3	1278.4	1331.4	1352.6
42.5°	1156.6	1177.8	1227.2	1287.2	1308.4
45°	1093.0	1116.0	1172.5	1236.0	1259.0
47.5°	1029.4	1057.7	1119.5	1186.6	1211.3
50°	964.1	995.9	1063.0	1133.6	1161.9
52.5°	905.8	935.8	1006.5	1082.4	1108.9
55°	838.7	872.3	950.0	1027.7	1057.7
57.5°	769.9	806.9	889.9	974.7	1004.7
60°	702.8	743.4	835.2	920.0	953.5
62.5°	637.4	678.0	773.4	861.7	895.2
65°	566.8	614.5	713.4	803.4	835.2
67.5°	499.7	550.9	655.1	743.4	775.2
70°	434.4	483.8	595.1	681.6	713.4
72.5°	363.7	420.2	531.5	621.5	655.1
75°	293.1	360.2	469.7	558.0	589.8
77.5°	227.8	296.6	406.1	478.5	494.4
80°	167.7	238.4	333.7	384.9	404.4
82.5°	107.7	178.3	254.3	291.3	307.2
85°	60.0	118.3	166.0	187.2	194.2
87.5°	24.7	51.2	67.1	75.9	75.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)