

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: P314363

Luminaire Tested: **24FCZ2-45-UNV-L83050-S-CP250-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: P314363
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: 24FCZ2-45-UNV-L83050-S-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" 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: 4283.0 lumens
Efficiency: N/A
Efficacy: 108.7 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

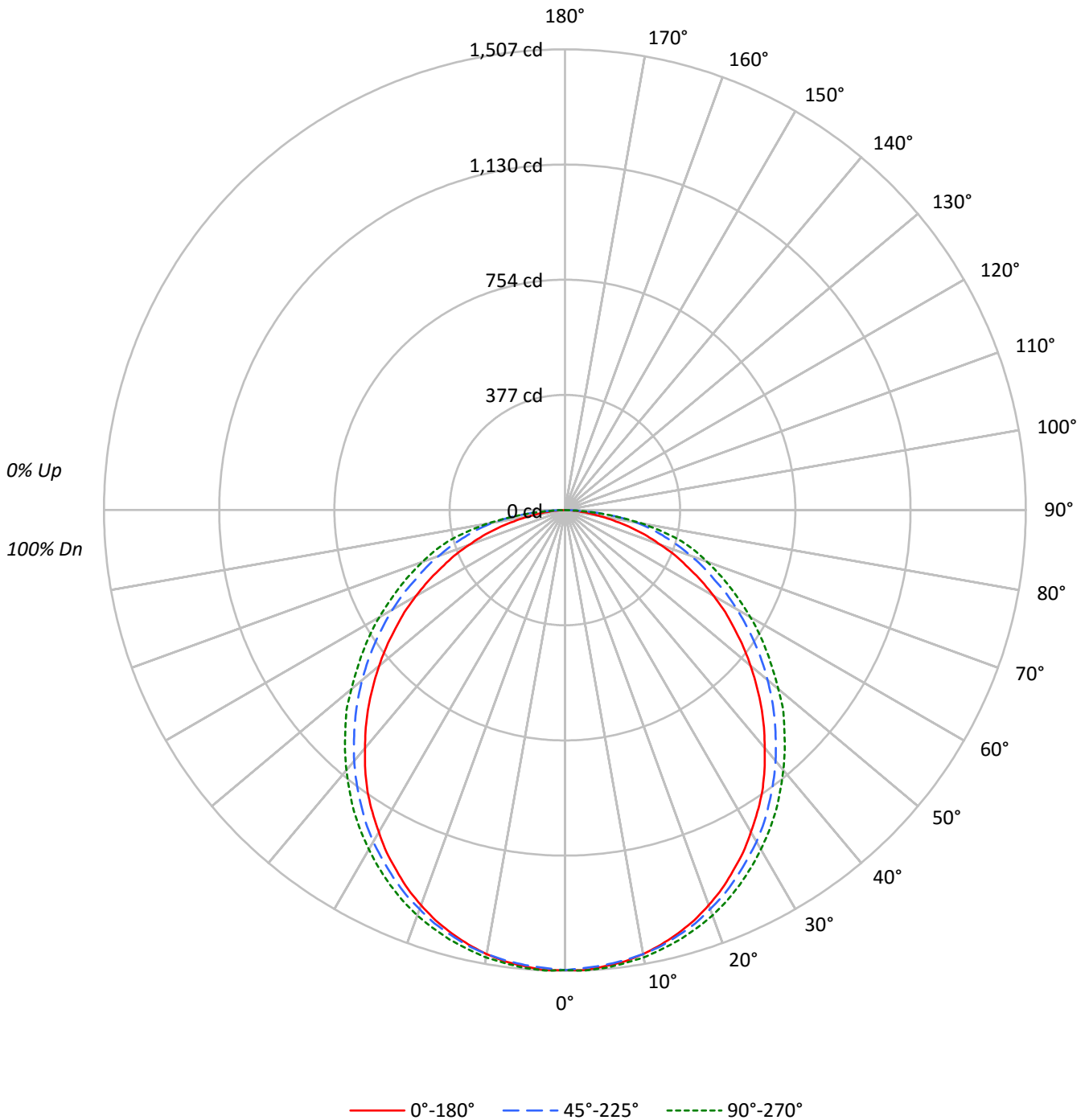
Input Watts (W): 39.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	2024	2024	2024
5°	2023	2018	2030
10°	2015	2015	2030
15°	1995	2005	2026
20°	1969	1989	2020
25°	1933	1969	2008
30°	1890	1947	1991
35°	1848	1915	1975
40°	1785	1883	1952
45°	1727	1846	1931
50°	1660	1811	1908
55°	1586	1778	1889
60°	1512	1750	1885
65°	1416	1720	1897
70°	1311	1729	1948
75°	1174	1761	2058
80°	948	1866	2013
85°	715	1638	1596



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.4	3.3
10°-20°	407.0	9.5
20°-30°	611.8	14.3
30°-40°	728.8	17.0
40°-50°	745.9	17.4
50°-60°	671.5	15.7
60°-70°	527.4	12.3
70°-80°	342.3	8.0
80°-90°	105.9	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°	1161.3	27.1
0°-40°	1890.1	44.1
0°-60°	3307.5	77.2
0°-90°	4283.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4283.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1505	1505	1505	1505	1505	
5°	1498	1501	1494	1502	1503	142
15°	1432	1437	1439	1452	1454	404
25°	1302	1313	1326	1348	1352	600
35°	1125	1139	1166	1194	1203	702
45°	907	929	970	1007	1015	700
55°	676	706	758	797	805	606
65°	445	479	540	585	596	443
75°	226	269	339	385	396	239
85°	46	86	106	103	103	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1504.6	1504.6	1504.6	1504.6	1504.6
2.5°	1506.0	1506.0	1499.2	1506.0	1507.4
5°	1497.8	1500.6	1493.8	1501.9	1503.3
7.5°	1489.7	1489.7	1485.6	1493.8	1495.1
10°	1474.7	1476.1	1474.7	1484.2	1485.6
12.5°	1455.7	1458.4	1459.8	1469.3	1470.6
15°	1432.5	1436.6	1439.3	1451.6	1454.3
17.5°	1406.7	1410.8	1417.6	1431.2	1433.9
20°	1375.4	1380.8	1389.0	1406.7	1410.8
22.5°	1341.4	1346.8	1360.4	1376.8	1383.6
25°	1301.9	1312.8	1326.4	1348.2	1352.3
27.5°	1262.5	1272.0	1289.7	1312.8	1318.3
30°	1216.2	1231.2	1253.0	1276.1	1281.5
32.5°	1171.3	1186.3	1212.2	1236.6	1243.4
35°	1125.1	1138.7	1165.9	1194.5	1202.6
37.5°	1072.0	1089.7	1119.6	1148.2	1156.4
40°	1016.2	1038.0	1072.0	1102.0	1111.5
42.5°	963.2	986.3	1020.3	1053.0	1063.9
45°	907.4	929.2	970.0	1006.7	1014.9
47.5°	850.3	874.8	918.3	955.0	968.6
50°	793.1	819.0	865.2	903.3	911.5
52.5°	736.0	763.2	812.2	853.0	857.1
55°	676.1	706.1	757.8	797.2	805.4
57.5°	621.7	647.6	703.3	744.2	753.7
60°	561.9	590.4	650.3	688.4	700.6
62.5°	504.7	534.7	597.2	635.3	646.2
65°	444.9	478.9	540.1	585.0	595.9
67.5°	393.2	425.8	491.1	534.7	545.5
70°	333.3	370.0	439.4	484.3	495.2
72.5°	281.6	319.7	389.1	432.6	448.9
75°	225.8	269.4	338.7	385.0	395.9
77.5°	171.4	221.8	292.5	327.9	327.9
80°	122.4	175.5	240.8	257.1	259.8
82.5°	80.3	132.0	178.2	176.9	176.9
85°	46.3	85.7	106.1	103.4	103.4
87.5°	17.7	35.4	38.1	38.1	36.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)