

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: P310846

Luminaire Tested: **24FCZ2-45-UNV-L82765-CP250-W2A-U-5000K**

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: P310846
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: 24FCZ2-45-UNV-L82765-CP250-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (168) 5000K 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: 3959.0 lumens
Efficiency: N/A
Efficacy: 102.8 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

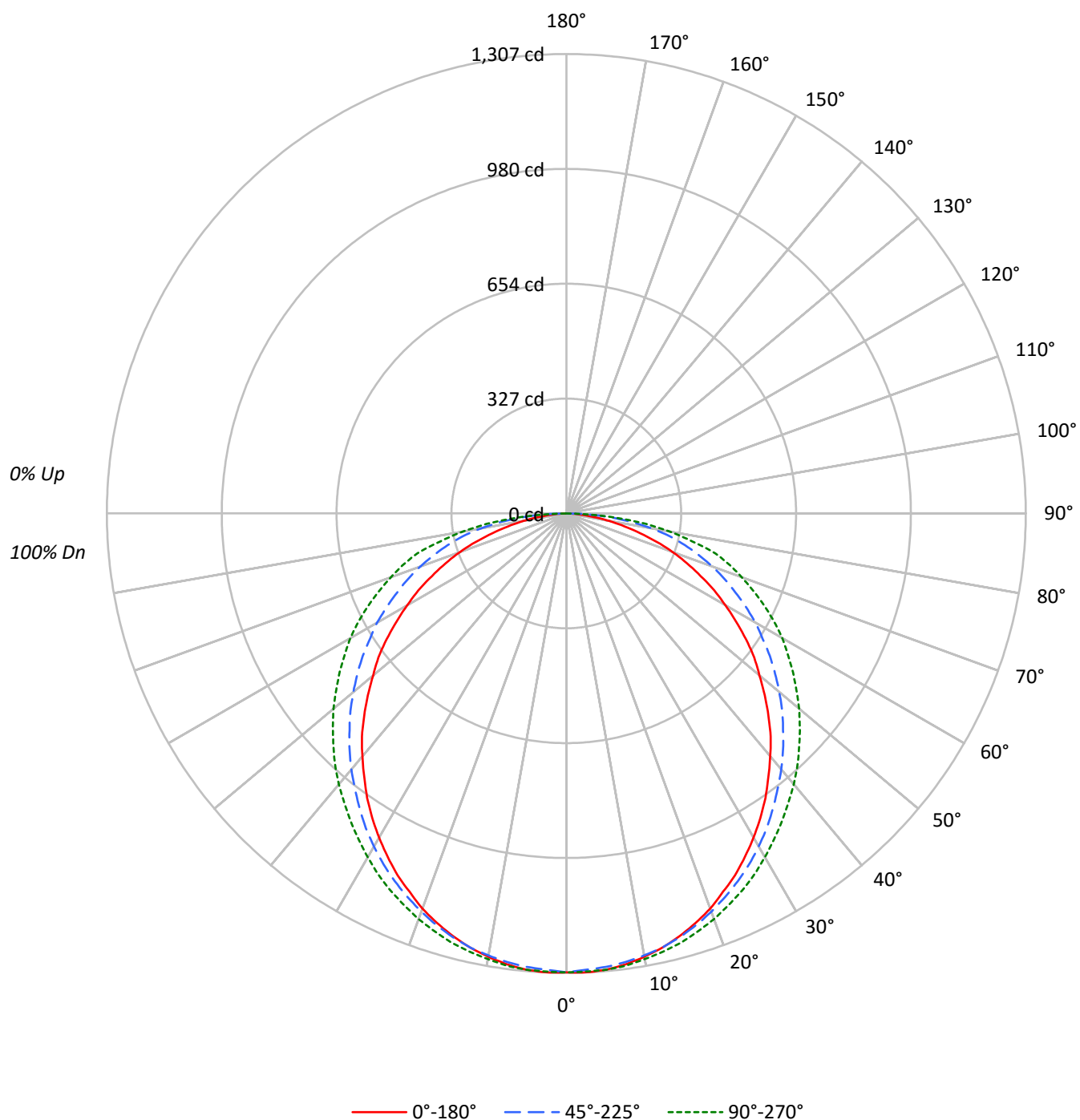
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1757	1757	1757
5°	1760	1749	1760
10°	1750	1744	1759
15°	1735	1738	1760
20°	1713	1727	1758
25°	1687	1714	1757
30°	1655	1700	1755
35°	1623	1683	1756
40°	1585	1670	1767
45°	1547	1660	1782
50°	1501	1655	1809
55°	1464	1658	1846
60°	1407	1672	1909
65°	1342	1690	1978
70°	1271	1742	2088
75°	1133	1816	2281
80°	967	1924	2331
85°	690	1907	2231



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.6	3.1
10°-20°	353.3	8.9
20°-30°	533.7	13.5
30°-40°	643.2	16.2
40°-50°	675.2	17.1
50°-60°	631.7	16.0
60°-70°	521.7	13.2
70°-80°	355.5	9.0
80°-90°	121.2	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°	1010.5	25.5
0°-40°	1653.7	41.8
0°-60°	2960.6	74.8
0°-90°	3959.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3959.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1306	1306	1306	1306	1306	
5°	1303	1302	1295	1303	1303	124
15°	1245	1246	1248	1261	1264	351
25°	1136	1142	1155	1177	1184	523
35°	988	998	1024	1059	1069	617
45°	813	830	872	920	936	627
55°	624	649	707	764	787	557
65°	422	457	531	598	621	418
75°	218	268	349	415	439	232
85°	45	88	124	139	144	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1305.6	1305.6	1305.6	1305.6	1305.6
2.5°	1307.0	1305.6	1299.1	1305.6	1304.3
5°	1303.0	1301.7	1295.1	1303.0	1303.0
7.5°	1293.8	1293.8	1287.3	1296.4	1297.8
10°	1280.7	1280.7	1276.7	1287.3	1287.3
12.5°	1264.9	1264.9	1264.9	1275.4	1276.7
15°	1245.2	1246.5	1247.8	1261.0	1263.6
17.5°	1221.6	1224.2	1228.1	1243.9	1246.5
20°	1196.6	1199.2	1205.8	1224.2	1228.1
22.5°	1165.1	1171.7	1180.9	1201.9	1205.8
25°	1136.2	1141.5	1154.6	1176.9	1183.5
27.5°	1100.7	1108.6	1125.7	1149.3	1158.5
30°	1065.3	1073.1	1094.2	1121.8	1129.6
32.5°	1027.2	1039.0	1061.3	1090.2	1099.4
35°	987.8	998.3	1024.5	1058.7	1069.2
37.5°	944.4	958.9	987.8	1024.5	1037.7
40°	902.4	918.2	951.0	990.4	1006.2
42.5°	860.4	876.1	912.9	957.6	973.3
45°	813.1	830.1	872.2	919.5	936.5
47.5°	765.8	786.8	832.8	882.7	901.1
50°	717.2	740.8	790.7	843.3	864.3
52.5°	673.8	696.2	748.7	805.2	824.9
55°	623.9	648.9	706.7	764.5	786.8
57.5°	572.7	600.3	662.0	725.1	747.4
60°	522.8	553.0	621.3	684.3	709.3
62.5°	474.2	504.4	575.3	641.0	666.0
65°	421.6	457.1	530.7	597.7	621.3
67.5°	371.7	409.8	487.3	553.0	576.6
70°	323.1	359.9	442.7	507.0	530.7
72.5°	270.6	312.6	395.4	462.4	487.3
75°	218.0	268.0	349.4	415.1	438.7
77.5°	169.4	220.7	302.1	356.0	367.8
80°	124.8	177.3	248.3	286.3	300.8
82.5°	80.1	132.7	189.1	216.7	228.6
85°	44.7	88.0	123.5	139.2	144.5
87.5°	18.4	38.1	49.9	56.5	56.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)