

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: P311524

Luminaire Tested: **24FCZ2-45-UNV-L82765-S-CP250-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: P311524
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-L82765-S-CP250-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" 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: 4223.0 lumens
Efficiency: N/A
Efficacy: 107.5 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

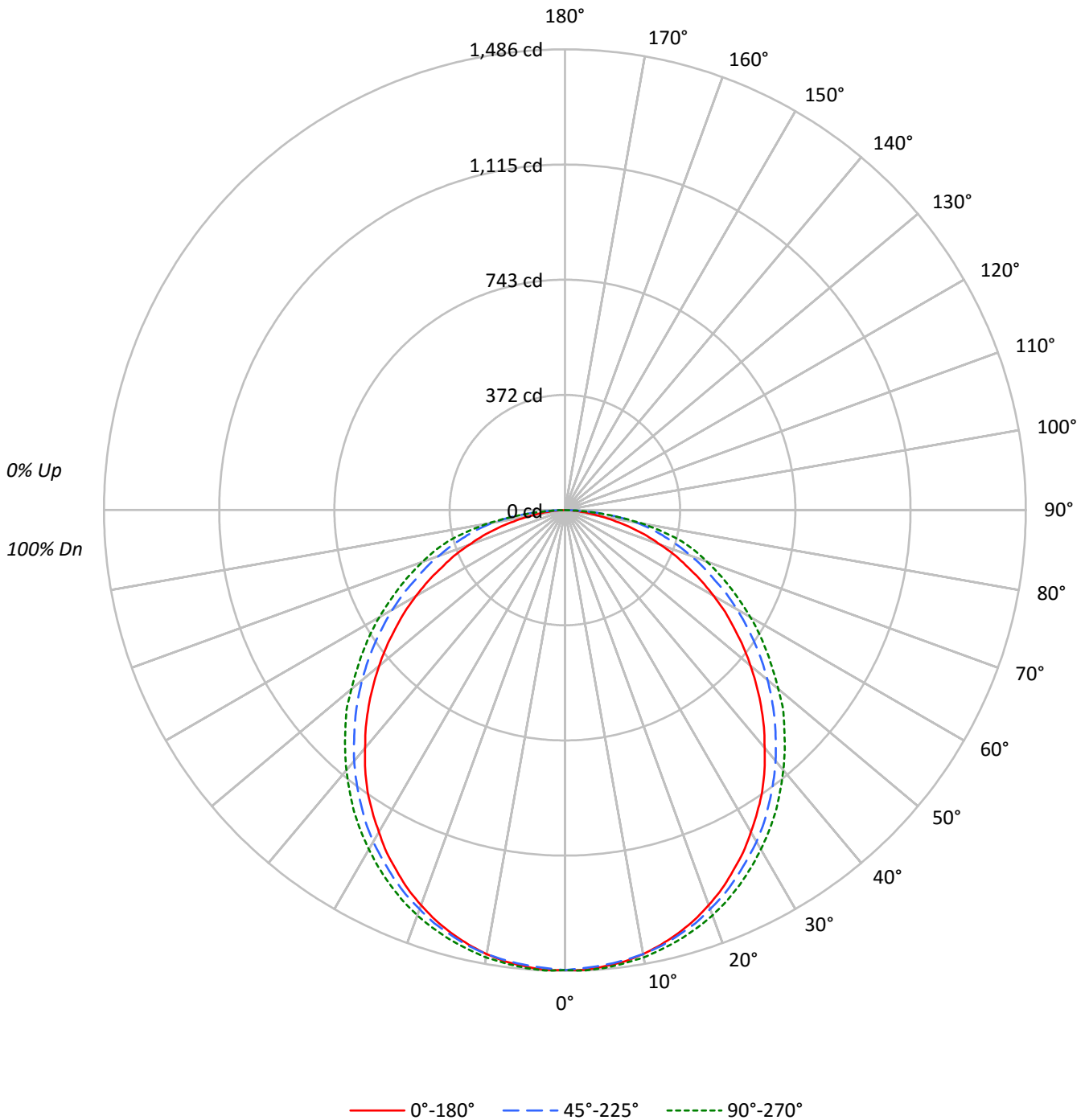
Input Watts (W): 39.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1996	1996	1996
5°	1995	1989	2002
10°	1987	1987	2001
15°	1968	1977	1997
20°	1942	1961	1992
25°	1906	1942	1979
30°	1863	1919	1963
35°	1822	1888	1948
40°	1760	1857	1925
45°	1702	1820	1904
50°	1637	1786	1881
55°	1564	1753	1863
60°	1491	1725	1859
65°	1396	1695	1870
70°	1293	1705	1921
75°	1158	1736	2029
80°	935	1839	1985
85°	704	1615	1573



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.4	3.3
10°-20°	401.3	9.5
20°-30°	603.3	14.3
30°-40°	718.6	17.0
40°-50°	735.4	17.4
50°-60°	662.1	15.7
60°-70°	520.0	12.3
70°-80°	337.5	8.0
80°-90°	104.4	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°	1145.0	27.1
0°-40°	1863.6	44.1
0°-60°	3261.2	77.2
0°-90°	4223.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4223.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1484	1484	1484	1484	1484	
5°	1477	1480	1473	1481	1482	140
15°	1412	1416	1419	1431	1434	398
25°	1284	1294	1308	1329	1333	591
35°	1109	1123	1150	1178	1186	692
45°	895	916	956	993	1001	690
55°	667	696	747	786	794	598
65°	439	472	532	577	588	437
75°	223	266	334	380	390	236
85°	46	84	105	102	102	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1483.6	1483.6	1483.6	1483.6	1483.6
2.5°	1484.9	1484.9	1478.2	1484.9	1486.3
5°	1476.9	1479.5	1472.8	1480.9	1482.2
7.5°	1468.8	1468.8	1464.8	1472.8	1474.2
10°	1454.1	1455.4	1454.1	1463.4	1464.8
12.5°	1435.3	1438.0	1439.3	1448.7	1450.0
15°	1412.5	1416.5	1419.2	1431.3	1433.9
17.5°	1387.0	1391.0	1397.7	1411.1	1413.8
20°	1356.1	1361.5	1369.6	1387.0	1391.0
22.5°	1322.6	1328.0	1341.4	1357.5	1364.2
25°	1283.7	1294.4	1307.8	1329.3	1333.3
27.5°	1244.8	1254.2	1271.6	1294.4	1299.8
30°	1199.2	1213.9	1235.4	1258.2	1263.6
32.5°	1154.9	1169.7	1195.2	1219.3	1226.0
35°	1109.3	1122.7	1149.6	1177.7	1185.8
37.5°	1057.0	1074.4	1104.0	1132.1	1140.2
40°	1002.0	1023.5	1057.0	1086.5	1095.9
42.5°	949.7	972.5	1006.0	1038.2	1049.0
45°	894.7	916.2	956.4	992.6	1000.7
47.5°	838.4	862.5	905.4	941.6	955.1
50°	782.0	807.5	853.1	890.7	898.7
52.5°	725.7	752.5	800.8	841.0	845.1
55°	666.7	696.2	747.1	786.0	794.1
57.5°	613.0	638.5	693.5	733.7	743.1
60°	554.0	582.2	641.2	678.7	690.8
62.5°	497.7	527.2	588.9	626.4	637.2
65°	438.6	472.2	532.5	576.8	587.5
67.5°	387.7	419.9	484.2	527.2	537.9
70°	328.6	364.9	433.3	477.5	488.3
72.5°	277.7	315.2	383.6	426.6	442.7
75°	222.7	265.6	334.0	379.6	390.3
77.5°	169.0	218.6	288.4	323.3	323.3
80°	120.7	173.0	237.4	253.5	256.2
82.5°	79.1	130.1	175.7	174.4	174.4
85°	45.6	84.5	104.6	101.9	101.9
87.5°	17.4	34.9	37.6	37.6	36.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)