

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: P311494

Luminaire Tested: **24FCZ2-45-UNV-L82765-S-CA125-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: P311494
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-CA125-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC 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: 4466.0 lumens
Efficiency: N/A
Efficacy: 116.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

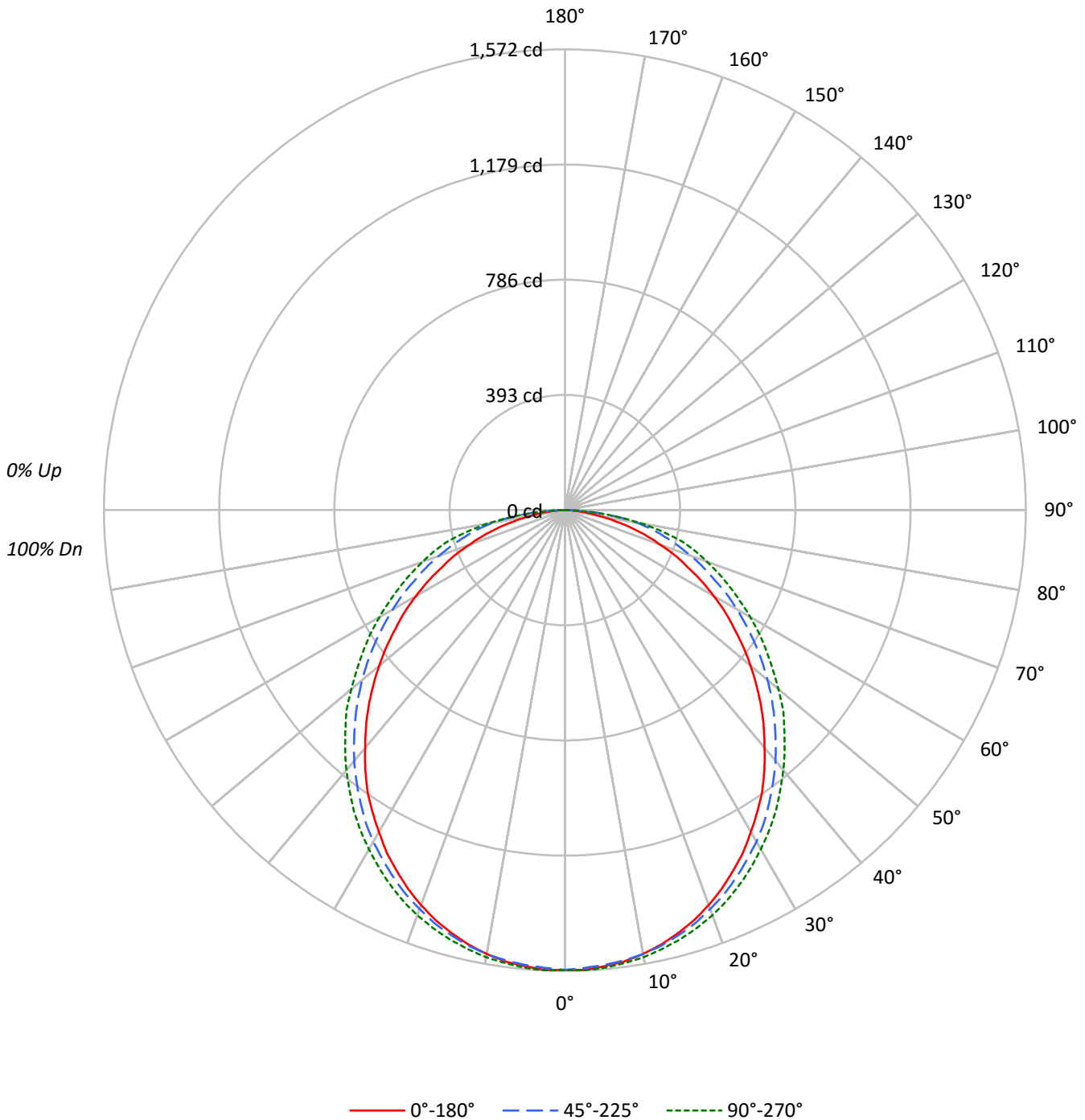
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2111	2111	2111
5°	2109	2104	2117
10°	2101	2101	2116
15°	2081	2091	2112
20°	2054	2074	2106
25°	2015	2053	2093
30°	1970	2030	2076
35°	1927	1997	2060
40°	1861	1963	2036
45°	1800	1925	2014
50°	1731	1888	1989
55°	1654	1853	1970
60°	1577	1825	1966
65°	1477	1793	1978
70°	1367	1803	2031
75°	1224	1836	2146
80°	989	1946	2099
85°	744	1707	1664



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.5	3.3
10°-20°	424.4	9.5
20°-30°	638.0	14.3
30°-40°	759.9	17.0
40°-50°	777.8	17.4
50°-60°	700.2	15.7
60°-70°	549.9	12.3
70°-80°	356.9	8.0
80°-90°	110.4	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°	1210.9	27.1
0°-40°	1970.9	44.1
0°-60°	3448.8	77.2
0°-90°	4466.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4466.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1569	1569	1569	1569	1569	
5°	1562	1565	1558	1566	1568	148
15°	1494	1498	1501	1514	1516	421
25°	1358	1369	1383	1406	1410	625
35°	1173	1187	1216	1246	1254	732
45°	946	969	1011	1050	1058	729
55°	705	736	790	831	840	632
65°	464	499	563	610	621	462
75°	236	281	353	402	413	249
85°	48	89	111	108	108	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1568.9	1568.9	1568.9	1568.9	1568.9
2.5°	1570.4	1570.4	1563.3	1570.4	1571.8
5°	1561.8	1564.7	1557.6	1566.1	1567.5
7.5°	1553.3	1553.3	1549.1	1557.6	1559.0
10°	1537.7	1539.1	1537.7	1547.7	1549.1
12.5°	1517.9	1520.7	1522.1	1532.1	1533.5
15°	1493.8	1498.0	1500.8	1513.6	1516.4
17.5°	1466.8	1471.1	1478.1	1492.3	1495.2
20°	1434.2	1439.8	1448.4	1466.8	1471.1
22.5°	1398.7	1404.4	1418.6	1435.6	1442.7
25°	1357.6	1368.9	1383.1	1405.8	1410.1
27.5°	1316.4	1326.4	1344.8	1368.9	1374.6
30°	1268.2	1283.8	1306.5	1330.6	1336.3
32.5°	1221.4	1237.0	1263.9	1289.5	1296.6
35°	1173.2	1187.3	1215.7	1245.5	1254.0
37.5°	1117.8	1136.3	1167.5	1197.3	1205.8
40°	1059.7	1082.4	1117.8	1149.0	1159.0
42.5°	1004.3	1028.5	1063.9	1098.0	1109.3
45°	946.2	968.9	1011.4	1049.7	1058.3
47.5°	886.6	912.1	957.5	995.8	1010.0
50°	827.0	854.0	902.2	941.9	950.4
52.5°	767.4	795.8	846.9	889.4	893.7
55°	705.0	736.2	790.1	831.3	839.8
57.5°	648.3	675.2	733.4	776.0	785.9
60°	585.9	615.7	678.1	717.8	730.6
62.5°	526.3	557.5	622.8	662.5	673.8
65°	463.9	499.3	563.2	610.0	621.3
67.5°	410.0	444.0	512.1	557.5	568.8
70°	347.5	385.9	458.2	505.0	516.4
72.5°	293.6	333.4	405.7	451.1	468.1
75°	235.5	280.9	353.2	401.5	412.8
77.5°	178.7	231.2	305.0	341.9	341.9
80°	127.7	183.0	251.1	268.1	270.9
82.5°	83.7	137.6	185.8	184.4	184.4
85°	48.2	89.4	110.6	107.8	107.8
87.5°	18.4	36.9	39.7	39.7	38.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)