

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: P311485

Luminaire Tested: **24FCZ2-45-UNV-L82765-S-CA08-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: P311485
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-CA08-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" 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

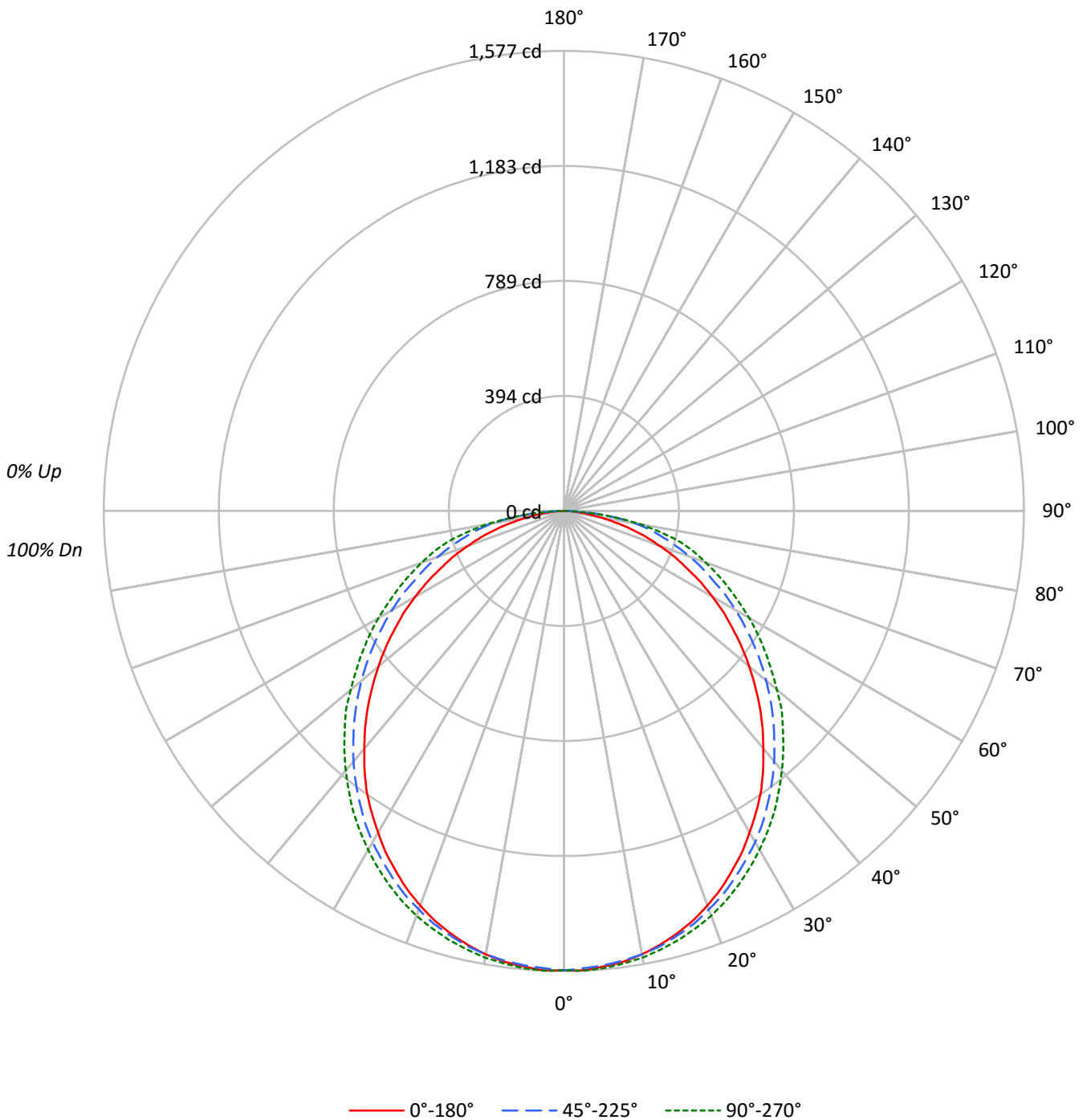
Lumens per Lamp: N/A
Luminaire Lumens: 4482.0 lumens
Efficiency: N/A
Efficacy: 116.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	2119	2119	2119
5°	2117	2111	2125
10°	2108	2108	2124
15°	2088	2098	2120
20°	2061	2081	2114
25°	2023	2061	2101
30°	1977	2037	2084
35°	1934	2004	2067
40°	1868	1970	2043
45°	1807	1932	2021
50°	1737	1895	1997
55°	1660	1860	1977
60°	1582	1831	1973
65°	1482	1799	1985
70°	1372	1809	2039
75°	1228	1843	2154
80°	993	1953	2107
85°	747	1714	1670



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.1	3.3
10°-20°	425.9	9.5
20°-30°	640.3	14.3
30°-40°	762.7	17.0
40°-50°	780.5	17.4
50°-60°	702.7	15.7
60°-70°	551.9	12.3
70°-80°	358.2	8.0
80°-90°	110.8	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°	1215.3	27.1
0°-40°	1977.9	44.1
0°-60°	3461.2	77.2
0°-90°	4482.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4482.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1575	1575	1575	1575	1575	
5°	1567	1570	1563	1572	1573	149
15°	1499	1503	1506	1519	1522	423
25°	1362	1374	1388	1411	1415	628
35°	1177	1192	1220	1250	1258	734
45°	950	972	1015	1054	1062	732
55°	708	739	793	834	843	634
65°	466	501	565	612	624	463
75°	236	282	354	403	414	250
85°	48	90	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°	1574.6	1574.6	1574.6	1574.6	1574.6
2.5°	1576.0	1576.0	1568.9	1576.0	1577.4
5°	1567.4	1570.3	1563.2	1571.7	1573.1
7.5°	1558.9	1558.9	1554.6	1563.2	1564.6
10°	1543.2	1544.7	1543.2	1553.2	1554.6
12.5°	1523.3	1526.2	1527.6	1537.5	1539.0
15°	1499.1	1503.4	1506.2	1519.0	1521.9
17.5°	1472.1	1476.3	1483.4	1497.7	1500.5
20°	1439.3	1445.0	1453.5	1472.1	1476.3
22.5°	1403.7	1409.4	1423.6	1440.7	1447.9
25°	1362.4	1373.8	1388.1	1410.8	1415.1
27.5°	1321.1	1331.1	1349.6	1373.8	1379.5
30°	1272.7	1288.4	1311.2	1335.4	1341.1
32.5°	1225.8	1241.4	1268.5	1294.1	1301.2
35°	1177.4	1191.6	1220.1	1250.0	1258.5
37.5°	1121.8	1140.3	1171.7	1201.6	1210.1
40°	1063.5	1086.2	1121.8	1153.2	1163.1
42.5°	1007.9	1032.1	1067.7	1101.9	1113.3
45°	949.6	972.4	1015.1	1053.5	1062.0
47.5°	889.8	915.4	961.0	999.4	1013.6
50°	830.0	857.0	905.4	945.3	953.8
52.5°	770.2	798.7	849.9	892.6	896.9
55°	707.6	738.9	793.0	834.3	842.8
57.5°	650.6	677.7	736.0	778.7	788.7
60°	588.0	617.9	680.5	720.4	733.2
62.5°	528.2	559.5	625.0	664.8	676.2
65°	465.5	501.1	565.2	612.2	623.6
67.5°	411.4	445.6	513.9	559.5	570.9
70°	348.8	387.2	459.8	506.8	518.2
72.5°	294.7	334.6	407.2	452.7	469.8
75°	236.3	281.9	354.5	402.9	414.3
77.5°	179.4	232.1	306.1	343.1	343.1
80°	128.1	183.7	252.0	269.1	271.9
82.5°	84.0	138.1	186.5	185.1	185.1
85°	48.4	89.7	111.0	108.2	108.2
87.5°	18.5	37.0	39.9	39.9	38.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)