

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: P311483

Luminaire Tested: **24FCZ2-45-UNV-L82765-S-CA08-W2A-U-4000K**

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: P311483
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-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 4000K 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: 4346.0 lumens
Efficiency: N/A
Efficacy: 114.4 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

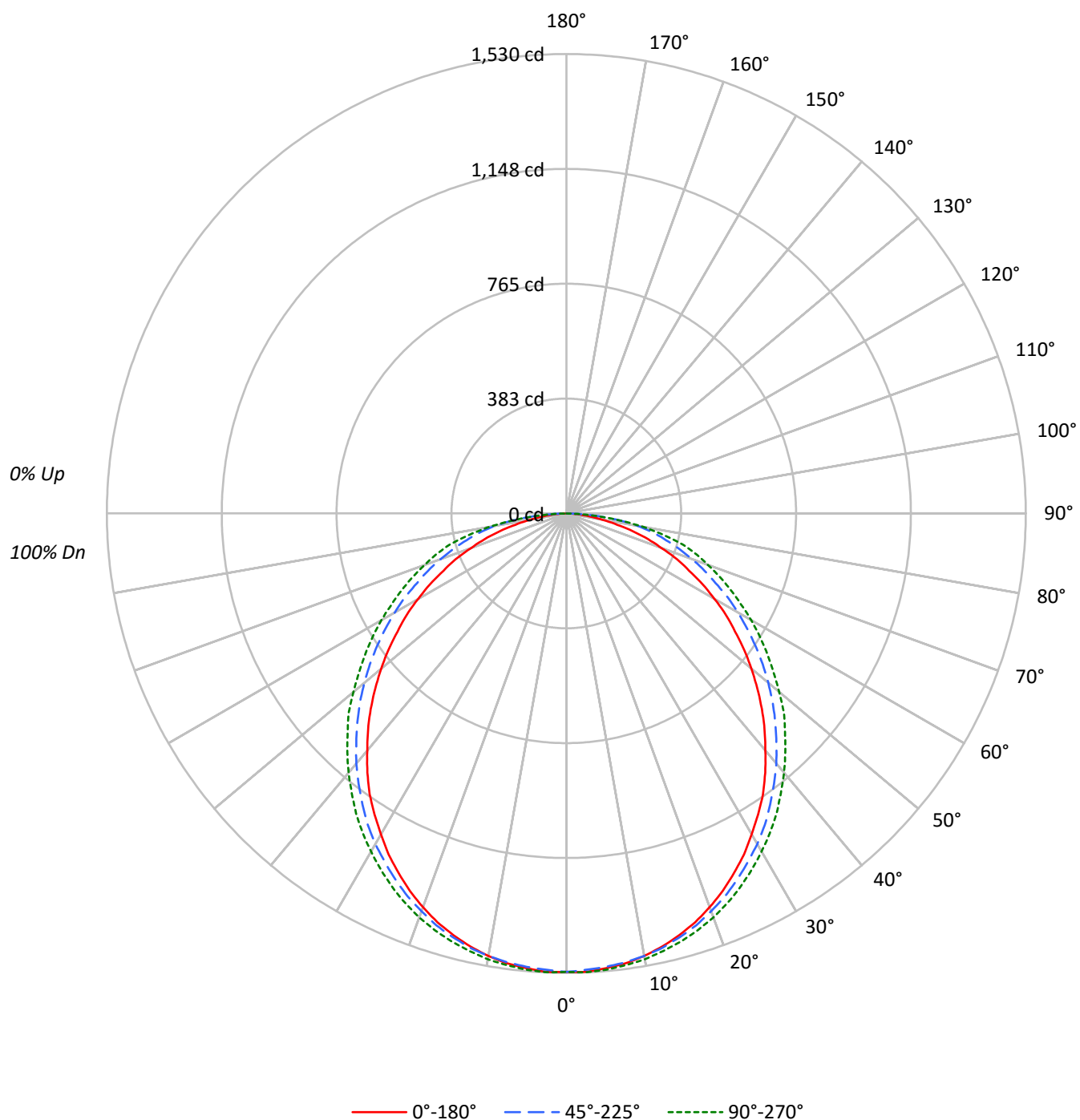
Input Watts (W): 38
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2054	2054	2054
5°	2053	2047	2060
10°	2044	2044	2060
15°	2025	2034	2056
20°	1998	2018	2050
25°	1961	1998	2037
30°	1917	1975	2020
35°	1875	1943	2004
40°	1811	1911	1981
45°	1752	1873	1960
50°	1685	1838	1936
55°	1609	1804	1917
60°	1534	1776	1913
65°	1437	1745	1925
70°	1330	1754	1977
75°	1192	1787	2088
80°	962	1893	2043
85°	724	1663	1619



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.5	3.3
10°-20°	413.0	9.5
20°-30°	620.8	14.3
30°-40°	739.5	17.0
40°-50°	756.9	17.4
50°-60°	681.4	15.7
60°-70°	535.1	12.3
70°-80°	347.3	8.0
80°-90°	107.4	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°	1178.4	27.1
0°-40°	1917.9	44.1
0°-60°	3356.2	77.2
0°-90°	4346.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4346.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1527	1527	1527	1527	1527	
5°	1520	1523	1516	1524	1525	144
15°	1454	1458	1460	1473	1476	410
25°	1321	1332	1346	1368	1372	609
35°	1142	1155	1183	1212	1220	712
45°	921	943	984	1022	1030	710
55°	686	716	769	809	817	615
65°	451	486	548	594	605	449
75°	229	273	344	391	402	243
85°	47	87	108	105	105	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1526.8	1526.8	1526.8	1526.8	1526.8
2.5°	1528.2	1528.2	1521.3	1528.2	1529.5
5°	1519.9	1522.6	1515.7	1524.0	1525.4
7.5°	1511.6	1511.6	1507.5	1515.7	1517.1
10°	1496.4	1497.8	1496.4	1506.1	1507.5
12.5°	1477.1	1479.8	1481.2	1490.9	1492.3
15°	1453.6	1457.8	1460.5	1472.9	1475.7
17.5°	1427.4	1431.5	1438.4	1452.2	1455.0
20°	1395.6	1401.2	1409.4	1427.4	1431.5
22.5°	1361.1	1366.6	1380.5	1397.0	1403.9
25°	1321.1	1332.1	1345.9	1368.0	1372.2
27.5°	1281.1	1290.7	1308.7	1332.1	1337.7
30°	1234.1	1249.3	1271.4	1294.9	1300.4
32.5°	1188.6	1203.8	1230.0	1254.8	1261.7
35°	1141.6	1155.4	1183.0	1212.0	1220.3
37.5°	1087.8	1105.7	1136.1	1165.1	1173.4
40°	1031.2	1053.3	1087.8	1118.2	1127.8
42.5°	977.4	1000.8	1035.3	1068.5	1079.5
45°	920.8	942.8	984.3	1021.5	1029.8
47.5°	862.8	887.6	931.8	969.1	982.9
50°	804.8	831.0	878.0	916.6	924.9
52.5°	746.8	774.4	824.1	865.5	869.7
55°	686.1	716.5	768.9	808.9	817.2
57.5°	630.9	657.1	713.7	755.1	764.8
60°	570.1	599.1	659.9	698.5	710.9
62.5°	512.1	542.5	606.0	644.7	655.7
65°	451.4	485.9	548.0	593.6	604.6
67.5°	399.0	432.1	498.3	542.5	553.6
70°	338.2	375.5	445.9	491.4	502.5
72.5°	285.8	324.4	394.8	439.0	455.5
75°	229.2	273.3	343.7	390.7	401.7
77.5°	173.9	225.0	296.8	332.7	332.7
80°	124.2	178.1	244.3	260.9	263.7
82.5°	81.4	133.9	180.8	179.5	179.5
85°	46.9	87.0	107.7	104.9	104.9
87.5°	17.9	35.9	38.7	38.7	37.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)