

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: P311504

Luminaire Tested: **24FCZ2-45-UNV-L82765-S-CP125-W2A-U-5500K**

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: P311504
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-CP125-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET
Light Source: (168) 5500K 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: 4424.0 lumens
Efficiency: N/A
Efficacy: 114.3 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

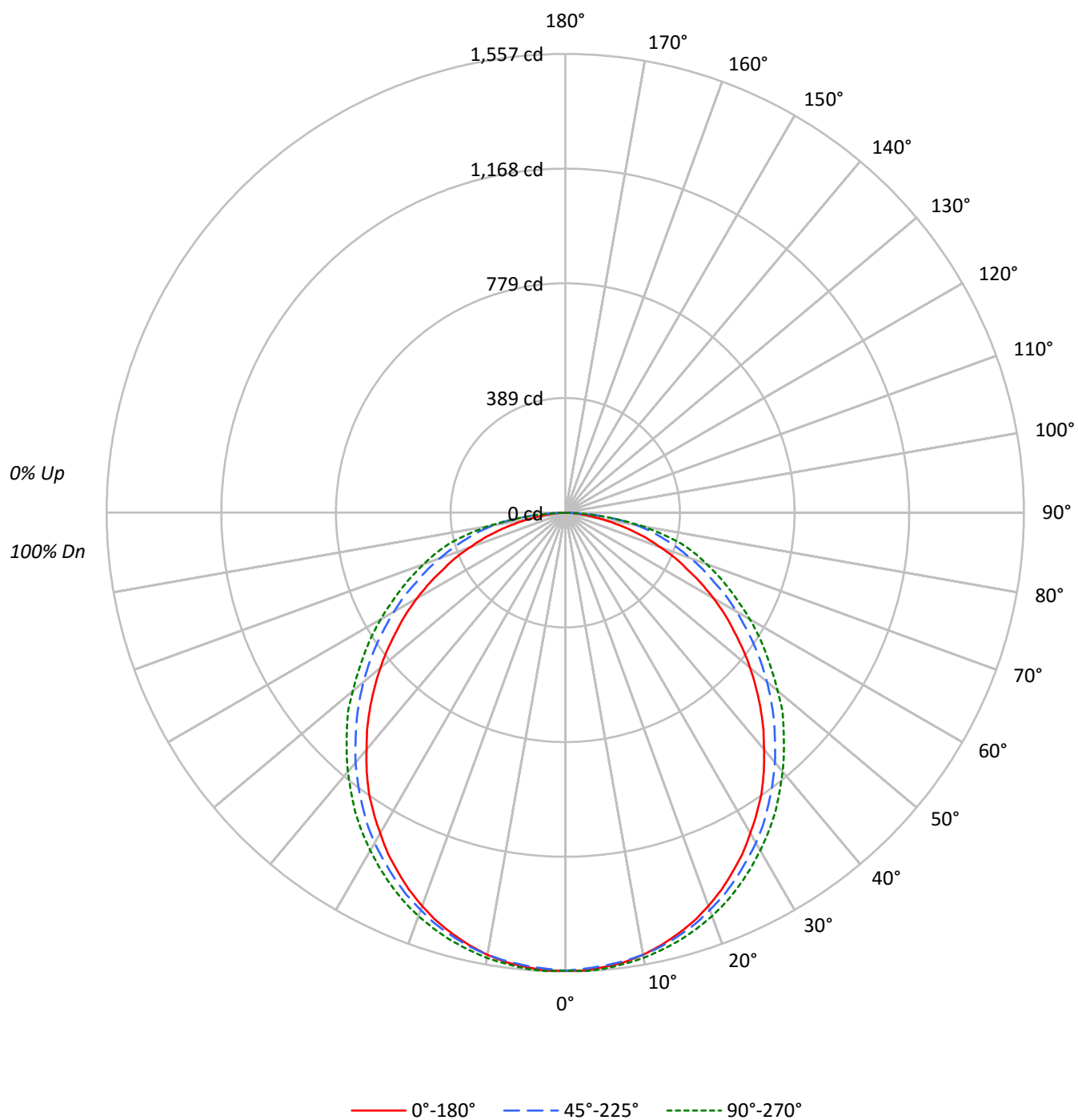
Input Watts (W): 38.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2091	2091	2091
5°	2090	2084	2097
10°	2081	2081	2097
15°	2061	2071	2092
20°	2034	2054	2086
25°	1996	2034	2074
30°	1952	2011	2057
35°	1909	1978	2040
40°	1844	1945	2017
45°	1784	1906	1995
50°	1715	1871	1971
55°	1638	1836	1951
60°	1562	1808	1947
65°	1463	1776	1960
70°	1354	1786	2012
75°	1213	1819	2126
80°	980	1927	2080
85°	738	1692	1649



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.1	3.3
10°-20°	420.4	9.5
20°-30°	632.0	14.3
30°-40°	752.8	17.0
40°-50°	770.4	17.4
50°-60°	693.6	15.7
60°-70°	544.7	12.3
70°-80°	353.5	8.0
80°-90°	109.3	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°	1199.5	27.1
0°-40°	1952.3	44.1
0°-60°	3416.4	77.2
0°-90°	4424.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4424.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1554	1554	1554	1554	1554	
5°	1547	1550	1543	1551	1553	147
15°	1480	1484	1487	1499	1502	417
25°	1345	1356	1370	1393	1397	620
35°	1162	1176	1204	1234	1242	725
45°	937	960	1002	1040	1048	723
55°	698	729	783	824	832	626
65°	460	495	558	604	616	457
75°	233	278	350	398	409	247
85°	48	88	110	107	107	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1554.2	1554.2	1554.2	1554.2	1554.2
2.5°	1555.6	1555.6	1548.6	1555.6	1557.0
5°	1547.2	1550.0	1542.9	1551.4	1552.8
7.5°	1538.7	1538.7	1534.5	1542.9	1544.3
10°	1523.3	1524.7	1523.3	1533.1	1534.5
12.5°	1503.6	1506.4	1507.8	1517.6	1519.0
15°	1479.7	1483.9	1486.7	1499.4	1502.2
17.5°	1453.0	1457.2	1464.2	1478.3	1481.1
20°	1420.7	1426.3	1434.7	1453.0	1457.2
22.5°	1385.6	1391.2	1405.2	1422.1	1429.1
25°	1344.8	1356.0	1370.1	1392.6	1396.8
27.5°	1304.0	1313.9	1332.2	1356.0	1361.7
30°	1256.3	1271.7	1294.2	1318.1	1323.7
32.5°	1209.9	1225.4	1252.1	1277.4	1284.4
35°	1162.1	1176.2	1204.3	1233.8	1242.2
37.5°	1107.3	1125.6	1156.5	1186.0	1194.4
40°	1049.7	1072.2	1107.3	1138.2	1148.1
42.5°	994.9	1018.8	1053.9	1087.6	1098.9
45°	937.3	959.8	1001.9	1039.9	1048.3
47.5°	878.3	903.6	948.5	986.5	1000.5
50°	819.2	845.9	893.7	933.1	941.5
52.5°	760.2	788.3	838.9	881.1	885.3
55°	698.4	729.3	782.7	823.5	831.9
57.5°	642.2	668.9	726.5	768.7	778.5
60°	580.4	609.9	671.7	711.0	723.7
62.5°	521.3	552.3	616.9	656.2	667.5
65°	459.5	494.6	557.9	604.2	615.5
67.5°	406.1	439.8	507.3	552.3	563.5
70°	344.3	382.2	453.9	500.3	511.5
72.5°	290.9	330.2	401.9	446.9	463.7
75°	233.3	278.2	349.9	397.7	408.9
77.5°	177.1	229.1	302.1	338.7	338.7
80°	126.5	181.3	248.7	265.6	268.4
82.5°	82.9	136.3	184.1	182.7	182.7
85°	47.8	88.5	109.6	106.8	106.8
87.5°	18.3	36.5	39.3	39.3	37.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)