

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: P311502

Luminaire Tested: **24FCZ2-45-UNV-L82765-S-CP125-W2A-U-4500K**

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: P311502
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-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET
Light Source: (168) 4500K 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: 4321.0 lumens
Efficiency: N/A
Efficacy: 112.8 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

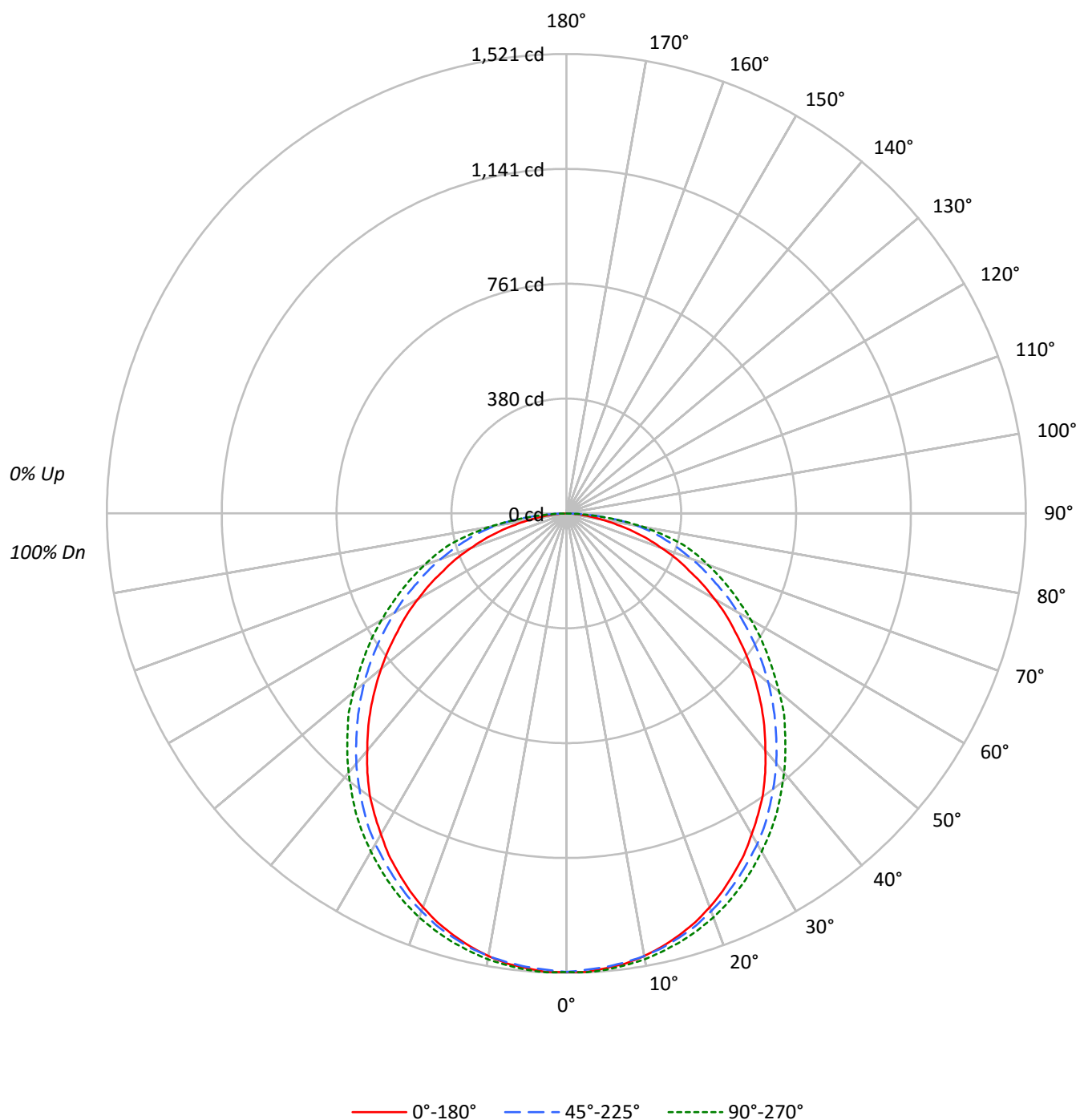
Input Watts (W): 38.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2042	2042	2042
5°	2041	2035	2048
10°	2033	2033	2048
15°	2013	2023	2044
20°	1987	2006	2038
25°	1950	1987	2025
30°	1906	1964	2009
35°	1864	1932	1993
40°	1801	1900	1969
45°	1742	1862	1948
50°	1675	1827	1925
55°	1600	1793	1906
60°	1525	1766	1902
65°	1429	1735	1914
70°	1323	1744	1965
75°	1184	1777	2076
80°	957	1882	2031
85°	721	1653	1610



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.7	3.3
10°-20°	410.6	9.5
20°-30°	617.3	14.3
30°-40°	735.3	17.0
40°-50°	752.5	17.4
50°-60°	677.5	15.7
60°-70°	532.0	12.3
70°-80°	345.3	8.0
80°-90°	106.8	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°	1171.6	27.1
0°-40°	1906.9	44.1
0°-60°	3336.9	77.2
0°-90°	4321.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4321.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1518	1518	1518	1518	1518	
5°	1511	1514	1507	1515	1517	144
15°	1445	1449	1452	1464	1467	408
25°	1314	1324	1338	1360	1364	605
35°	1135	1149	1176	1205	1213	708
45°	916	937	979	1016	1024	706
55°	682	712	764	804	812	612
65°	449	483	545	590	601	447
75°	228	272	342	388	399	241
85°	47	86	107	104	104	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1518.0	1518.0	1518.0	1518.0	1518.0
2.5°	1519.4	1519.4	1512.5	1519.4	1520.7
5°	1511.1	1513.9	1507.0	1515.3	1516.6
7.5°	1502.9	1502.9	1498.8	1507.0	1508.4
10°	1487.8	1489.2	1487.8	1497.4	1498.8
12.5°	1468.6	1471.3	1472.7	1482.3	1483.7
15°	1445.3	1449.4	1452.1	1464.5	1467.2
17.5°	1419.2	1423.3	1430.2	1443.9	1446.6
20°	1387.6	1393.1	1401.3	1419.2	1423.3
22.5°	1353.3	1358.8	1372.5	1389.0	1395.8
25°	1313.5	1324.5	1338.2	1360.2	1364.3
27.5°	1273.7	1283.3	1301.1	1324.5	1330.0
30°	1227.0	1242.1	1264.1	1287.4	1292.9
32.5°	1181.7	1196.8	1222.9	1247.6	1254.5
35°	1135.1	1148.8	1176.2	1205.1	1213.3
37.5°	1081.5	1099.4	1129.6	1158.4	1166.6
40°	1025.3	1047.2	1081.5	1111.7	1121.3
42.5°	971.7	995.1	1029.4	1062.3	1073.3
45°	915.5	937.4	978.6	1015.7	1023.9
47.5°	857.8	882.5	926.4	963.5	977.2
50°	800.2	826.3	872.9	911.3	919.6
52.5°	742.5	770.0	819.4	860.6	864.7
55°	682.1	712.3	764.5	804.3	812.5
57.5°	627.2	653.3	709.6	750.8	760.4
60°	566.8	595.7	656.1	694.5	706.8
62.5°	509.2	539.4	602.5	641.0	651.9
65°	448.8	483.1	544.9	590.2	601.2
67.5°	396.7	429.6	495.5	539.4	550.4
70°	336.3	373.3	443.3	488.6	499.6
72.5°	284.1	322.5	392.5	436.5	452.9
75°	227.8	271.8	341.8	388.4	399.4
77.5°	172.9	223.7	295.1	330.8	330.8
80°	123.5	177.1	242.9	259.4	262.1
82.5°	81.0	133.1	179.8	178.4	178.4
85°	46.7	86.5	107.1	104.3	104.3
87.5°	17.8	35.7	38.4	38.4	37.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)