

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: P311444

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-S-CA125-W2A-U-2700K**

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: P311444
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: 24FCZ2-45HE-UNV-L82765-S-CA125-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 2700K 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: 3939.0 lumens
Efficiency: N/A
Efficacy: 116.5 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

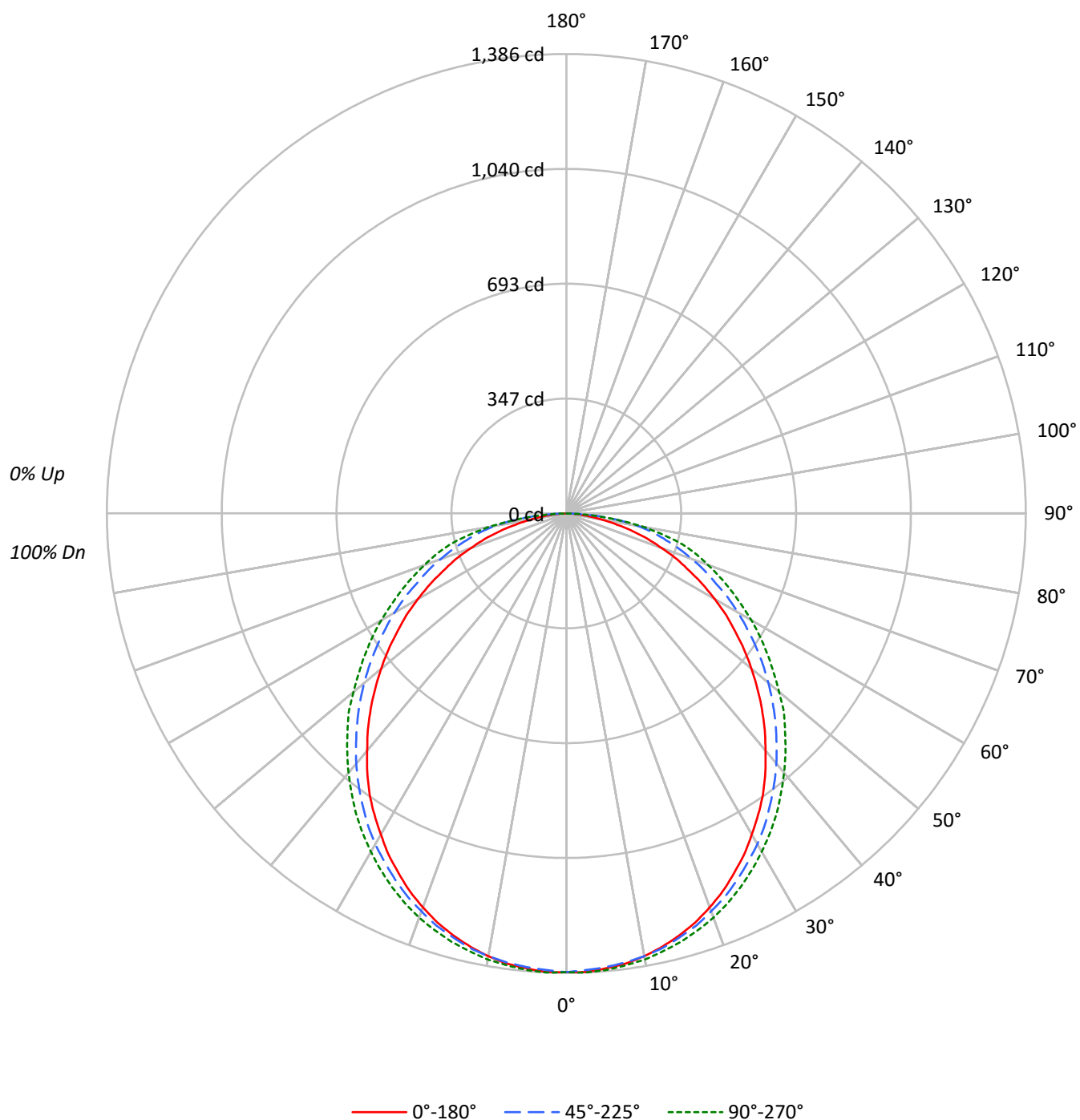
Input Watts (W): 33.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1862	1862	1862
5°	1860	1855	1867
10°	1853	1853	1867
15°	1835	1844	1863
20°	1811	1829	1858
25°	1778	1811	1846
30°	1738	1790	1831
35°	1700	1761	1817
40°	1642	1732	1795
45°	1588	1697	1776
50°	1527	1666	1755
55°	1459	1635	1738
60°	1390	1609	1734
65°	1302	1581	1745
70°	1206	1590	1792
75°	1080	1619	1893
80°	872	1716	1852
85°	656	1507	1468



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.0	3.3
10°-20°	374.3	9.5
20°-30°	562.7	14.3
30°-40°	670.3	17.0
40°-50°	686.0	17.4
50°-60°	617.6	15.7
60°-70°	485.0	12.3
70°-80°	314.8	8.0
80°-90°	97.4	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°	1068.0	27.1
0°-40°	1738.3	44.1
0°-60°	3041.9	77.2
0°-90°	3939.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3939.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1384	1384	1384	1384	1384	
5°	1378	1380	1374	1381	1382	131
15°	1318	1321	1324	1335	1338	371
25°	1197	1207	1220	1240	1244	552
35°	1035	1047	1072	1098	1106	645
45°	834	855	892	926	933	643
55°	622	649	697	733	741	557
65°	409	440	497	538	548	407
75°	208	248	312	354	364	220
85°	42	79	98	95	95	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1383.8	1383.8	1383.8	1383.8	1383.8
2.5°	1385.0	1385.0	1378.8	1385.0	1386.3
5°	1377.5	1380.0	1373.8	1381.3	1382.5
7.5°	1370.0	1370.0	1366.3	1373.8	1375.0
10°	1356.3	1357.5	1356.3	1365.0	1366.3
12.5°	1338.8	1341.3	1342.5	1351.3	1352.5
15°	1317.5	1321.2	1323.7	1335.0	1337.5
17.5°	1293.7	1297.5	1303.7	1316.2	1318.7
20°	1264.9	1269.9	1277.4	1293.7	1297.5
22.5°	1233.7	1238.7	1251.2	1266.2	1272.4
25°	1197.4	1207.4	1219.9	1239.9	1243.7
27.5°	1161.1	1169.8	1186.1	1207.4	1212.4
30°	1118.5	1132.3	1152.3	1173.6	1178.6
32.5°	1077.3	1091.0	1114.8	1137.3	1143.6
35°	1034.7	1047.2	1072.3	1098.5	1106.0
37.5°	985.9	1002.2	1029.7	1056.0	1063.5
40°	934.6	954.6	985.9	1013.4	1022.2
42.5°	885.8	907.1	938.4	968.4	978.4
45°	834.5	854.6	892.1	925.9	933.4
47.5°	782.0	804.5	844.5	878.3	890.8
50°	729.4	753.2	795.7	830.8	838.3
52.5°	676.9	701.9	746.9	784.5	788.2
55°	621.8	649.4	696.9	733.2	740.7
57.5°	571.8	595.6	646.9	684.4	693.1
60°	516.7	543.0	598.1	633.1	644.4
62.5°	464.2	491.7	549.3	584.3	594.3
65°	409.1	440.4	496.7	538.0	548.0
67.5°	361.6	391.6	451.7	491.7	501.7
70°	306.5	340.3	404.1	445.4	455.4
72.5°	259.0	294.0	357.8	397.9	412.9
75°	207.7	247.7	311.5	354.1	364.1
77.5°	157.6	203.9	269.0	301.5	301.5
80°	112.6	161.4	221.5	236.5	239.0
82.5°	73.8	121.4	163.9	162.7	162.7
85°	42.5	78.8	97.6	95.1	95.1
87.5°	16.3	32.5	35.0	35.0	33.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)