

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: P311489

Luminaire Tested: **24FCZ2-45-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: P311489
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-CA125-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC SHEET
Light Source: (168) 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: 3981.0 lumens
Efficiency: N/A
Efficacy: 105.9 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

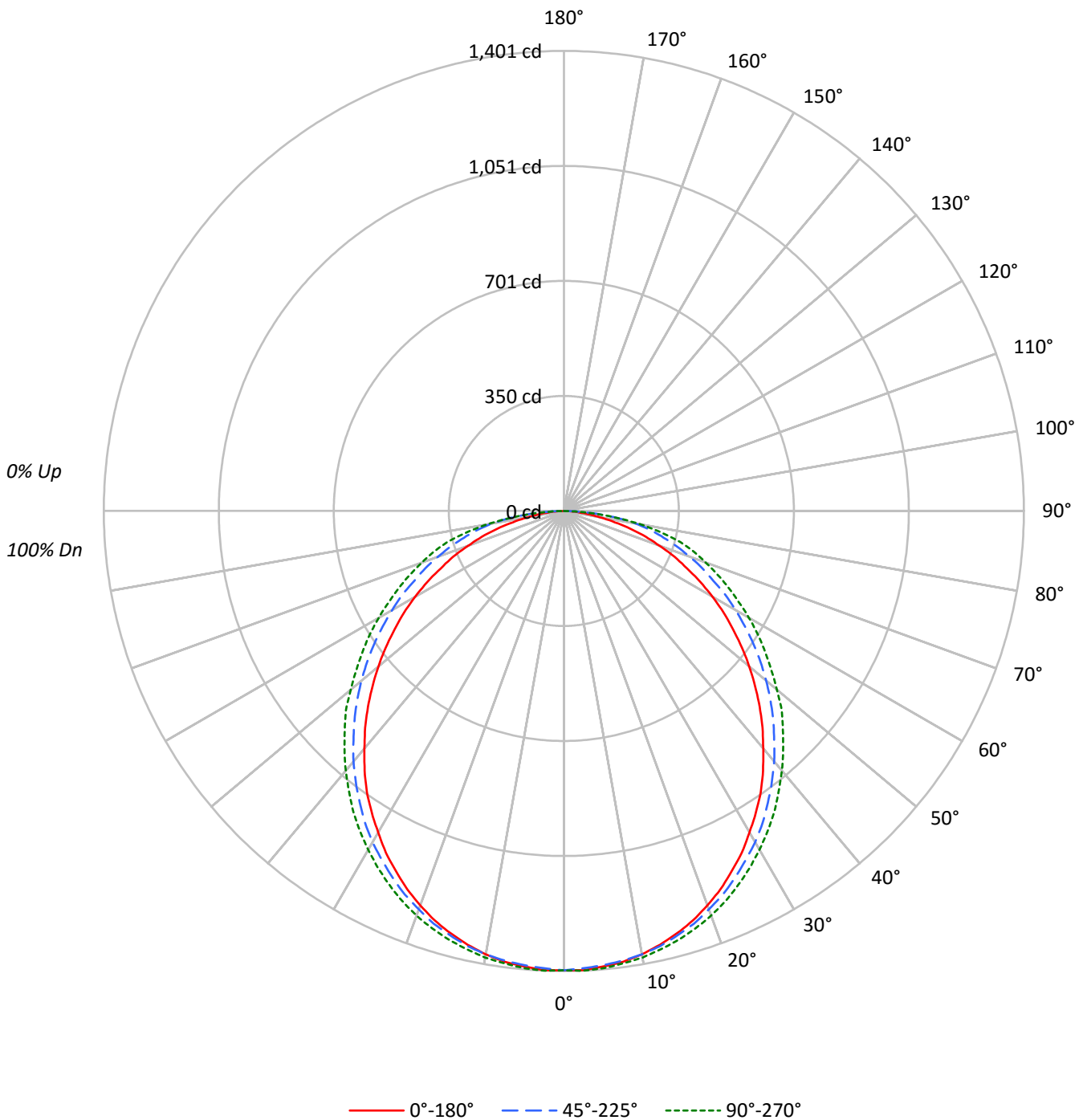
Input Watts (W): 37.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1882	1882	1882
5°	1880	1875	1887
10°	1873	1873	1887
15°	1855	1864	1883
20°	1830	1849	1878
25°	1796	1830	1866
30°	1756	1809	1851
35°	1718	1780	1836
40°	1659	1750	1815
45°	1605	1716	1795
50°	1543	1683	1773
55°	1474	1652	1756
60°	1405	1626	1752
65°	1316	1598	1763
70°	1219	1607	1811
75°	1091	1637	1913
80°	882	1734	1871
85°	664	1522	1484



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.4	3.3
10°-20°	378.3	9.5
20°-30°	568.7	14.3
30°-40°	677.4	17.0
40°-50°	693.3	17.4
50°-60°	624.2	15.7
60°-70°	490.2	12.3
70°-80°	318.1	8.0
80°-90°	98.4	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°	1079.4	27.1
0°-40°	1756.8	44.1
0°-60°	3074.3	77.2
0°-90°	3981.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3981.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1399	1399	1399	1399	1399	
5°	1392	1395	1388	1396	1397	132
15°	1332	1335	1338	1349	1352	375
25°	1210	1220	1233	1253	1257	557
35°	1046	1058	1084	1110	1118	652
45°	843	864	902	936	943	650
55°	628	656	704	741	749	563
65°	414	445	502	544	554	412
75°	210	250	315	358	368	222
85°	43	80	99	96	96	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1398.6	1398.6	1398.6	1398.6	1398.6
2.5°	1399.8	1399.8	1393.5	1399.8	1401.1
5°	1392.2	1394.8	1388.4	1396.0	1397.3
7.5°	1384.6	1384.6	1380.8	1388.4	1389.7
10°	1370.7	1372.0	1370.7	1379.6	1380.8
12.5°	1353.0	1355.6	1356.8	1365.7	1366.9
15°	1331.5	1335.3	1337.9	1349.2	1351.8
17.5°	1307.5	1311.3	1317.6	1330.3	1332.8
20°	1278.4	1283.5	1291.1	1307.5	1311.3
22.5°	1246.8	1251.9	1264.5	1279.7	1286.0
25°	1210.1	1220.3	1232.9	1253.1	1256.9
27.5°	1173.5	1182.3	1198.8	1220.3	1225.3
30°	1130.5	1144.4	1164.6	1186.1	1191.2
32.5°	1088.7	1102.7	1126.7	1149.4	1155.8
35°	1045.8	1058.4	1083.7	1110.2	1117.8
37.5°	996.4	1012.9	1040.7	1067.2	1074.8
40°	944.6	964.8	996.4	1024.3	1033.1
42.5°	895.3	916.8	948.4	978.7	988.8
45°	843.4	863.7	901.6	935.7	943.3
47.5°	790.3	813.1	853.5	887.7	900.3
50°	737.2	761.2	804.2	839.6	847.2
52.5°	684.1	709.4	754.9	792.8	796.6
55°	628.5	656.3	704.3	741.0	748.6
57.5°	577.9	601.9	653.8	691.7	700.5
60°	522.2	548.8	604.4	639.8	651.2
62.5°	469.1	497.0	555.1	590.5	600.6
65°	413.5	445.1	502.0	543.7	553.9
67.5°	365.4	395.8	456.5	497.0	507.1
70°	309.8	343.9	408.4	450.2	460.3
72.5°	261.8	297.2	361.7	402.1	417.3
75°	209.9	250.4	314.9	357.9	368.0
77.5°	159.3	206.1	271.9	304.7	304.7
80°	113.8	163.1	223.8	239.0	241.5
82.5°	74.6	122.7	165.7	164.4	164.4
85°	43.0	79.7	98.6	96.1	96.1
87.5°	16.4	32.9	35.4	35.4	34.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)