

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: P311518

Luminaire Tested: **24FCZ2-45-UNV-L82765-S-CP250-W2A-U-3500K**

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: P311518
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-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (168) 3500K 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: 3946.0 lumens
Efficiency: N/A
Efficacy: 104.4 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

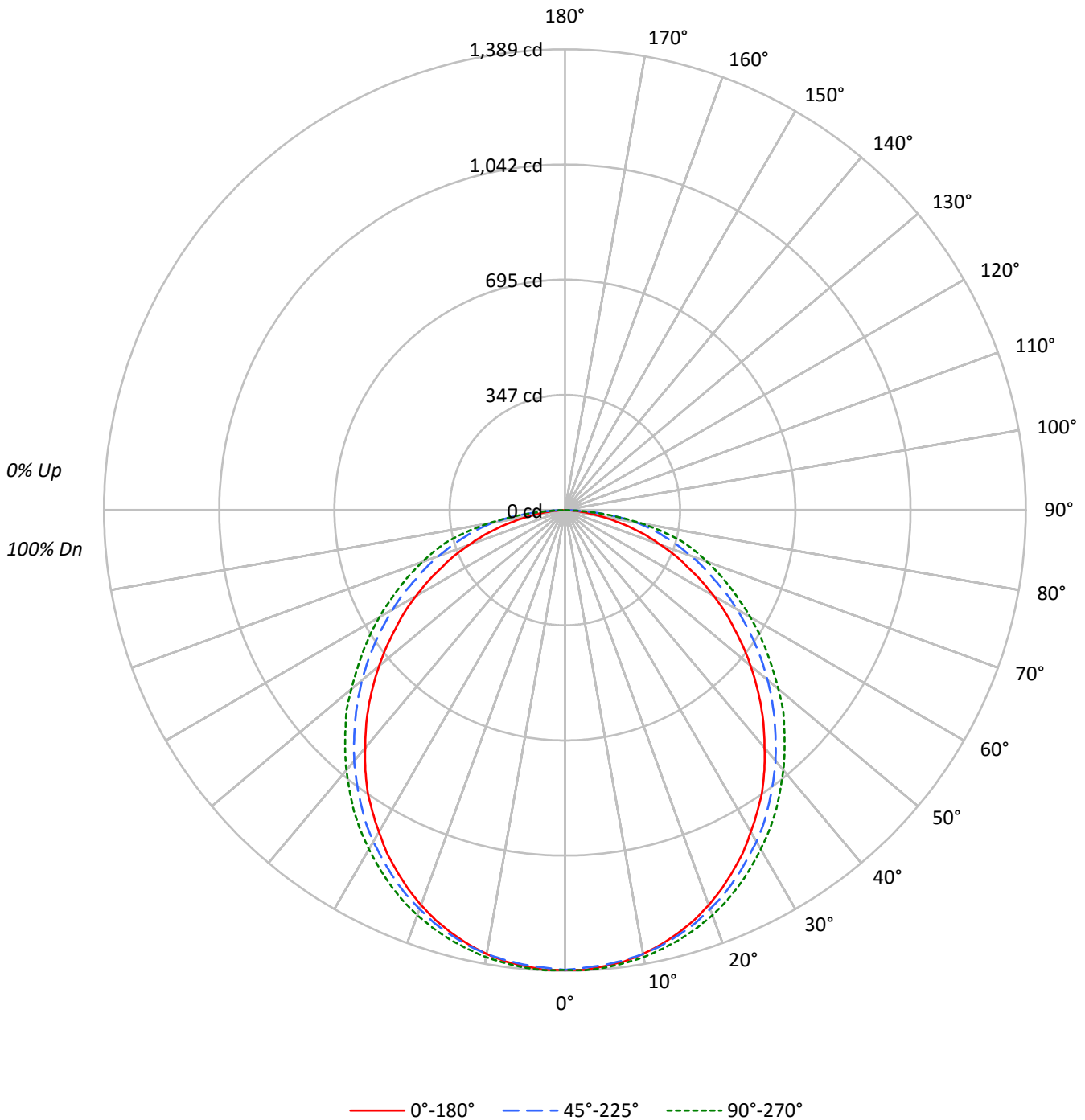
Input Watts (W): 37.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P311518

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-S-CP250-W2A-U-3500K

Luminous Intensity Polar Plot





TEST NUMBER: P311518

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-S-CP250-W2A-U-3500K

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°	1865	1865	1865
5°	1864	1859	1871
10°	1856	1856	1870
15°	1838	1847	1866
20°	1814	1832	1861
25°	1781	1814	1850
30°	1741	1794	1834
35°	1703	1764	1820
40°	1645	1735	1799
45°	1591	1701	1779
50°	1530	1669	1758
55°	1461	1638	1741
60°	1393	1612	1737
65°	1305	1584	1748
70°	1208	1592	1795
75°	1082	1622	1896
80°	874	1719	1855
85°	658	1510	1471



TEST NUMBER: P311518

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-S-CP250-W2A-U-3500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.2	3.3
10°-20°	375.0	9.5
20°-30°	563.7	14.3
30°-40°	671.5	17.0
40°-50°	687.2	17.4
50°-60°	618.7	15.7
60°-70°	485.9	12.3
70°-80°	315.3	8.0
80°-90°	97.5	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°	1069.9	27.1
0°-40°	1741.4	44.1
0°-60°	3047.3	77.2
0°-90°	3946.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3946.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1386	1386	1386	1386	1386	
5°	1380	1382	1376	1384	1385	131
15°	1320	1324	1326	1337	1340	372
25°	1200	1210	1222	1242	1246	553
35°	1037	1049	1074	1100	1108	647
45°	836	856	894	928	935	645
55°	623	650	698	734	742	558
65°	410	441	498	539	549	408
75°	208	248	312	355	365	220
85°	43	79	98	95	95	51
90°	0	0	0	0	0	



TEST NUMBER: P311518

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-S-CP250-W2A-U-3500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1386.3	1386.3	1386.3	1386.3	1386.3
2.5°	1387.5	1387.5	1381.2	1387.5	1388.8
5°	1380.0	1382.5	1376.2	1383.7	1385.0
7.5°	1372.5	1372.5	1368.7	1376.2	1377.5
10°	1358.7	1359.9	1358.7	1367.5	1368.7
12.5°	1341.1	1343.6	1344.9	1353.7	1354.9
15°	1319.8	1323.6	1326.1	1337.4	1339.9
17.5°	1296.0	1299.8	1306.0	1318.6	1321.1
20°	1267.2	1272.2	1279.7	1296.0	1299.8
22.5°	1235.8	1240.9	1253.4	1268.4	1274.7
25°	1199.5	1209.5	1222.1	1242.1	1245.9
27.5°	1163.2	1171.9	1188.2	1209.5	1214.5
30°	1120.5	1134.3	1154.4	1175.7	1180.7
32.5°	1079.2	1093.0	1116.8	1139.3	1145.6
35°	1036.6	1049.1	1074.2	1100.5	1108.0
37.5°	987.7	1004.0	1031.5	1057.9	1065.4
40°	936.3	956.3	987.7	1015.3	1024.0
42.5°	887.4	908.7	940.0	970.1	980.2
45°	836.0	856.1	893.7	927.5	935.0
47.5°	783.4	805.9	846.0	879.9	892.4
50°	730.7	754.5	797.2	832.3	839.8
52.5°	678.1	703.2	748.3	785.9	789.6
55°	622.9	650.5	698.1	734.5	742.0
57.5°	572.8	596.6	648.0	685.6	694.4
60°	517.7	544.0	599.1	634.2	645.5
62.5°	465.0	492.6	550.2	585.3	595.4
65°	409.9	441.2	497.6	539.0	549.0
67.5°	362.2	392.3	452.5	492.6	502.6
70°	307.1	340.9	404.8	446.2	456.2
72.5°	259.5	294.5	358.5	398.6	413.6
75°	208.1	248.2	312.1	354.7	364.7
77.5°	157.9	204.3	269.5	302.1	302.1
80°	112.8	161.7	221.9	236.9	239.4
82.5°	74.0	121.6	164.2	162.9	162.9
85°	42.6	79.0	97.8	95.3	95.3
87.5°	16.3	32.6	35.1	35.1	33.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)