

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: P313987

Luminaire Tested: **24FCZ2-45-UNV-L83050-CP250-W2A-U-4000K**

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: P313987
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-L83050-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (168) 4000K 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: 4038.0 lumens
Efficiency: N/A
Efficacy: 104.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

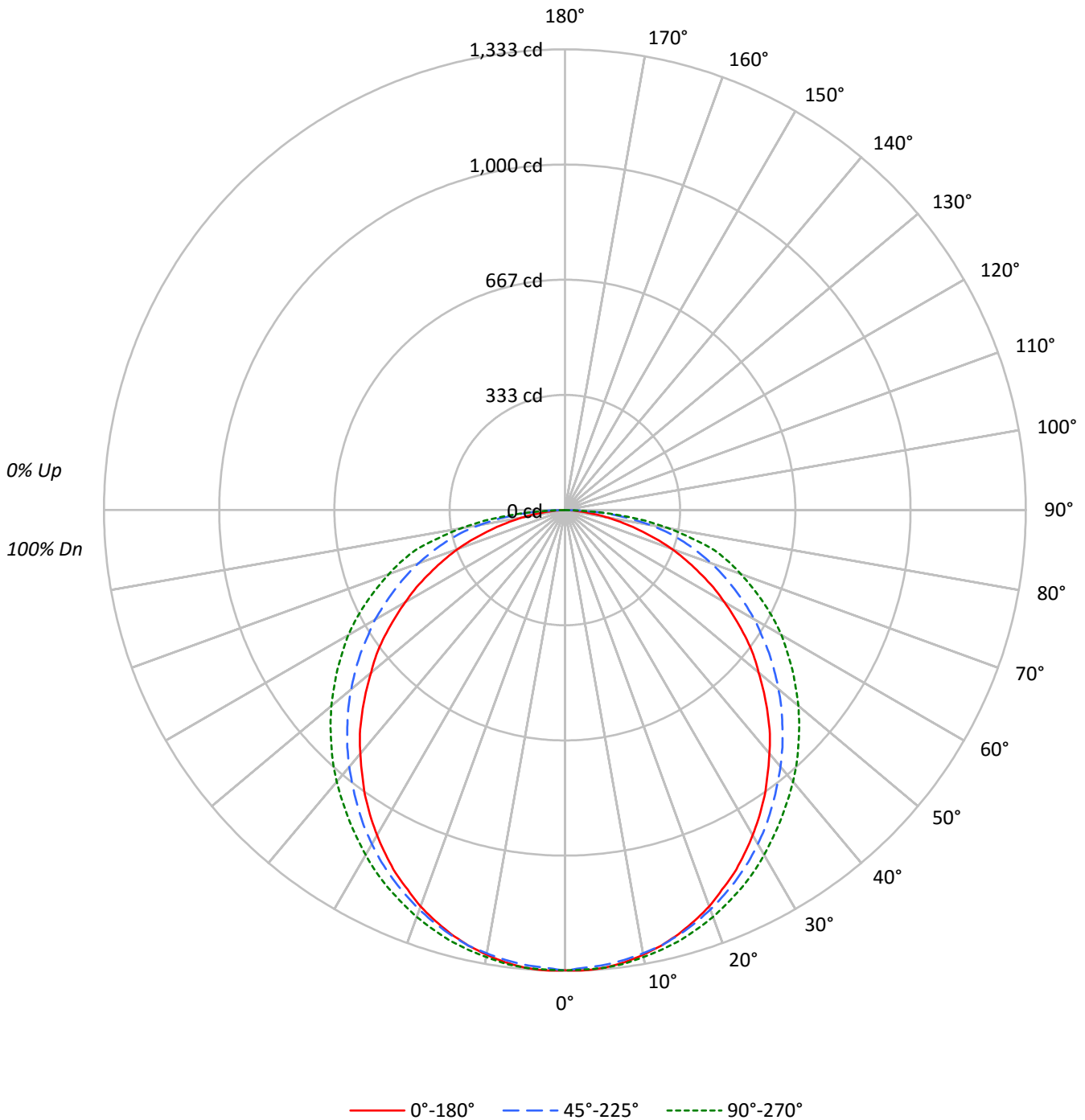
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P313987

CATALOG NUMBER: 24FCZ2-45-UNV-L83050-CP250-W2A-U-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P313987

CATALOG NUMBER: 24FCZ2-45-UNV-L83050-CP250-W2A-U-4000K

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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1792	1792	1792
5°	1795	1784	1795
10°	1785	1779	1794
15°	1769	1773	1795
20°	1748	1761	1794
25°	1720	1748	1792
30°	1688	1734	1790
35°	1655	1716	1791
40°	1617	1704	1802
45°	1578	1693	1818
50°	1531	1688	1845
55°	1493	1691	1882
60°	1435	1705	1947
65°	1369	1723	2018
70°	1297	1776	2129
75°	1156	1853	2326
80°	986	1962	2377
85°	704	1944	2276



TEST NUMBER: P313987

CATALOG NUMBER: 24FCZ2-45-UNV-L83050-CP250-W2A-U-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.0	3.1
10°-20°	360.4	8.9
20°-30°	544.3	13.5
30°-40°	656.0	16.2
40°-50°	688.7	17.1
50°-60°	644.3	16.0
60°-70°	532.1	13.2
70°-80°	362.6	9.0
80°-90°	123.7	3.1
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°	1030.7	25.5
0°-40°	1686.7	41.8
0°-60°	3019.7	74.8
0°-90°	4038.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4038.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1332	1332	1332	1332	1332	
5°	1329	1328	1321	1329	1329	126
15°	1270	1271	1273	1286	1289	358
25°	1159	1164	1178	1200	1207	533
35°	1008	1018	1045	1080	1090	630
45°	829	847	890	938	955	640
55°	636	662	721	780	802	568
65°	430	466	541	610	634	427
75°	222	273	356	423	448	237
85°	46	90	126	142	147	57
90°	0	0	0	0	0	



TEST NUMBER: P313987

CATALOG NUMBER: 24FCZ2-45-UNV-L83050-CP250-W2A-U-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1331.7	1331.7	1331.7	1331.7	1331.7
2.5°	1333.0	1331.7	1325.0	1331.7	1330.4
5°	1329.0	1327.7	1321.0	1329.0	1329.0
7.5°	1319.6	1319.6	1312.9	1322.3	1323.7
10°	1306.2	1306.2	1302.2	1312.9	1312.9
12.5°	1290.2	1290.2	1290.2	1300.9	1302.2
15°	1270.1	1271.4	1272.7	1286.1	1288.8
17.5°	1246.0	1248.6	1252.7	1268.7	1271.4
20°	1220.5	1223.2	1229.9	1248.6	1252.7
22.5°	1188.3	1195.0	1204.4	1225.9	1229.9
25°	1158.9	1164.2	1177.6	1200.4	1207.1
27.5°	1122.7	1130.7	1148.2	1172.3	1181.6
30°	1086.5	1094.6	1116.0	1144.1	1152.2
32.5°	1047.7	1059.7	1082.5	1112.0	1121.4
35°	1007.5	1018.2	1045.0	1079.8	1090.5
37.5°	963.3	978.0	1007.5	1045.0	1058.4
40°	920.4	936.5	970.0	1010.2	1026.2
42.5°	877.5	893.6	931.1	976.7	992.7
45°	829.3	846.7	889.6	937.8	955.2
47.5°	781.1	802.5	849.4	900.3	919.1
50°	731.5	755.6	806.5	860.1	881.5
52.5°	687.3	710.1	763.6	821.3	841.4
55°	636.4	661.8	720.8	779.7	802.5
57.5°	584.1	612.3	675.2	739.5	762.3
60°	533.2	564.0	633.7	698.0	723.5
62.5°	483.6	514.5	586.8	653.8	679.2
65°	430.1	466.2	541.3	609.6	633.7
67.5°	379.1	418.0	497.0	564.0	588.1
70°	329.6	367.1	451.5	517.1	541.3
72.5°	276.0	318.9	403.3	471.6	497.0
75°	222.4	273.3	356.4	423.4	447.5
77.5°	172.8	225.1	308.1	363.1	375.1
80°	127.3	180.9	253.2	292.1	306.8
82.5°	81.7	135.3	192.9	221.1	233.1
85°	45.6	89.8	125.9	142.0	147.4
87.5°	18.8	38.9	50.9	57.6	57.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)