

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: P314362

Luminaire Tested: **24FCZ2-45-UNV-L83050-S-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: P314362
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-L83050-S-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH 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: 4243.0 lumens
Efficiency: N/A
Efficacy: 110.2 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

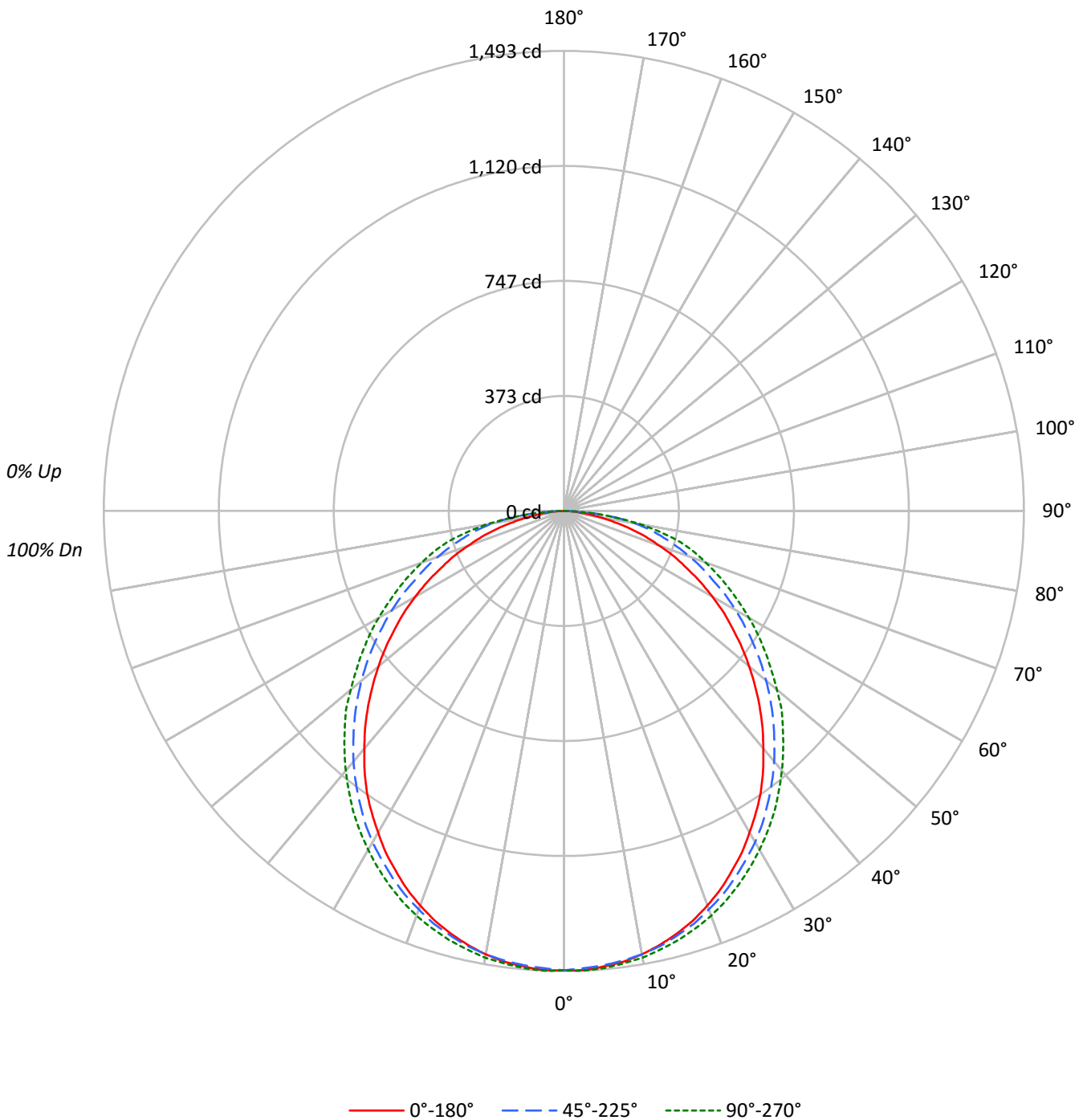
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2006	2006	2006
5°	2004	1999	2011
10°	1996	1996	2011
15°	1977	1986	2007
20°	1951	1970	2001
25°	1915	1951	1989
30°	1872	1929	1972
35°	1831	1897	1957
40°	1768	1865	1934
45°	1710	1828	1913
50°	1645	1794	1890
55°	1571	1761	1872
60°	1498	1734	1868
65°	1403	1704	1879
70°	1299	1712	1930
75°	1163	1745	2039
80°	940	1848	1994
85°	707	1623	1581



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.1	3.3
10°-20°	403.2	9.5
20°-30°	606.1	14.3
30°-40°	722.0	17.0
40°-50°	738.9	17.4
50°-60°	665.3	15.7
60°-70°	522.4	12.3
70°-80°	339.1	8.0
80°-90°	104.9	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°	1150.5	27.1
0°-40°	1872.5	44.1
0°-60°	3276.6	77.2
0°-90°	4243.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4243.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1491	1491	1491	1491	1491	
5°	1484	1487	1480	1488	1489	141
15°	1419	1423	1426	1438	1441	400
25°	1290	1301	1314	1336	1340	594
35°	1115	1128	1155	1183	1191	695
45°	899	920	961	997	1005	693
55°	670	700	751	790	798	600
65°	441	474	535	580	590	439
75°	224	267	336	381	392	237
85°	46	85	105	102	102	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1490.6	1490.6	1490.6	1490.6	1490.6
2.5°	1491.9	1491.9	1485.2	1491.9	1493.3
5°	1483.9	1486.6	1479.8	1487.9	1489.2
7.5°	1475.8	1475.8	1471.7	1479.8	1481.2
10°	1460.9	1462.3	1460.9	1470.4	1471.7
12.5°	1442.1	1444.8	1446.1	1455.6	1456.9
15°	1419.2	1423.2	1425.9	1438.0	1440.7
17.5°	1393.6	1397.6	1404.3	1417.8	1420.5
20°	1362.6	1367.9	1376.0	1393.6	1397.6
22.5°	1328.9	1334.3	1347.7	1363.9	1370.6
25°	1289.8	1300.6	1314.0	1335.6	1339.6
27.5°	1250.7	1260.1	1277.7	1300.6	1306.0
30°	1204.9	1219.7	1241.3	1264.2	1269.6
32.5°	1160.4	1175.2	1200.8	1225.1	1231.8
35°	1114.6	1128.1	1155.0	1183.3	1191.4
37.5°	1062.0	1079.5	1109.2	1137.5	1145.6
40°	1006.8	1028.3	1062.0	1091.7	1101.1
42.5°	954.2	977.1	1010.8	1043.1	1053.9
45°	898.9	920.5	960.9	997.3	1005.4
47.5°	842.3	866.6	909.7	946.1	959.6
50°	785.7	811.3	857.2	894.9	903.0
52.5°	729.1	756.1	804.6	845.0	849.1
55°	669.8	699.5	750.7	789.8	797.9
57.5°	615.9	641.5	696.8	737.2	746.6
60°	556.6	584.9	644.2	682.0	694.1
62.5°	500.0	529.7	591.7	629.4	640.2
65°	440.7	474.4	535.1	579.5	590.3
67.5°	389.5	421.8	486.5	529.7	540.4
70°	330.2	366.6	435.3	479.8	490.6
72.5°	279.0	316.7	385.5	428.6	444.8
75°	223.7	266.9	335.6	381.4	392.2
77.5°	169.8	219.7	289.8	324.8	324.8
80°	121.3	173.9	238.5	254.7	257.4
82.5°	79.5	130.7	176.6	175.2	175.2
85°	45.8	84.9	105.1	102.4	102.4
87.5°	17.5	35.0	37.7	37.7	36.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)