

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: P313985

Luminaire Tested: **24FCZ2-45-UNV-L83050-CP250-W2A-U-3000K**

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: P313985
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-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (168) 3000K 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: 3634.0 lumens
Efficiency: N/A
Efficacy: 96.9 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

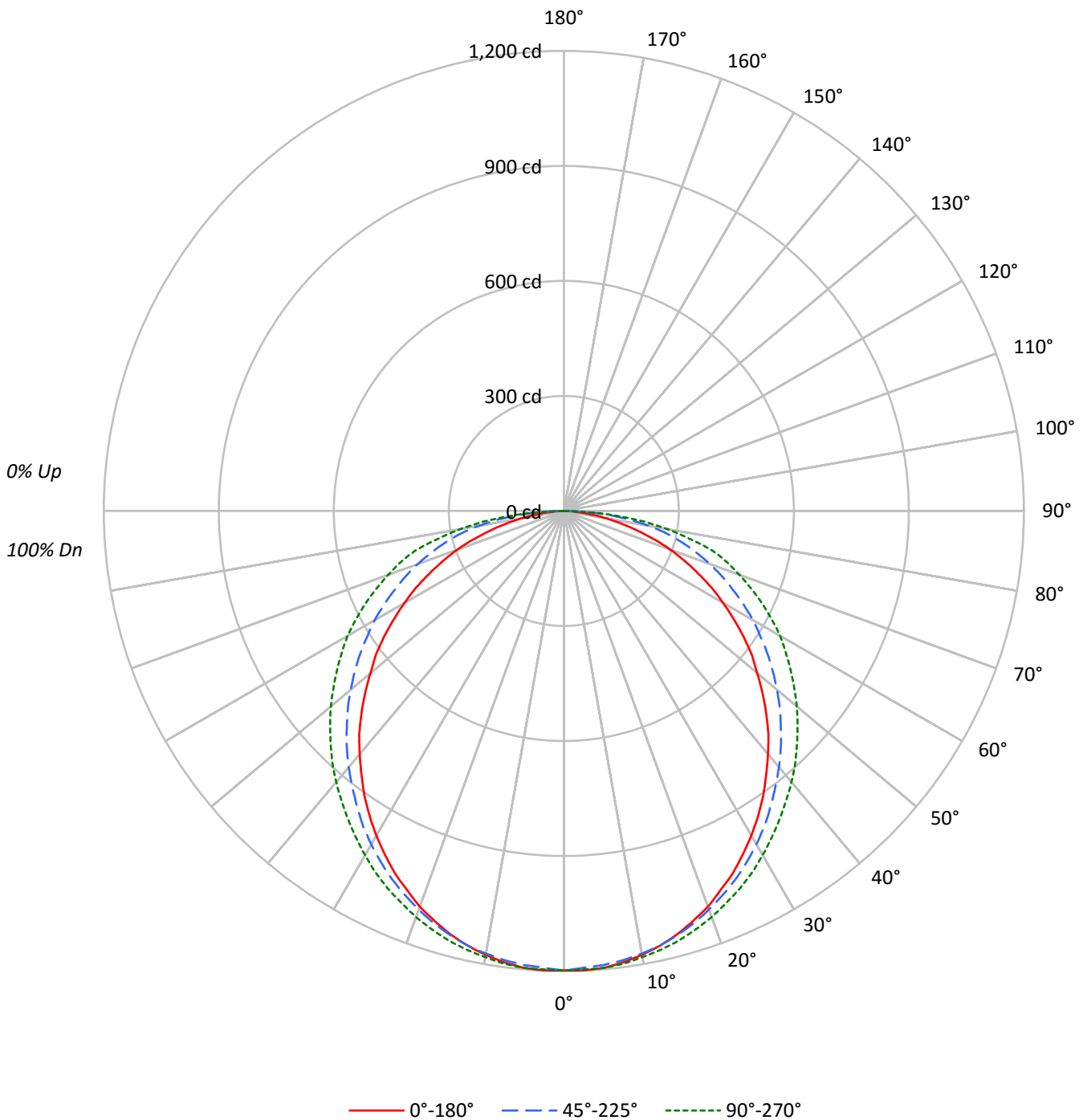
Input Watts (W): 37.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1613	1613	1613
5°	1615	1606	1615
10°	1606	1601	1614
15°	1592	1595	1616
20°	1573	1585	1614
25°	1548	1573	1613
30°	1519	1560	1611
35°	1489	1545	1612
40°	1455	1533	1622
45°	1420	1523	1636
50°	1378	1519	1661
55°	1343	1522	1694
60°	1291	1535	1752
65°	1232	1551	1816
70°	1167	1598	1916
75°	1040	1667	2093
80°	887	1766	2139
85°	633	1749	2047



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.4	3.1
10°-20°	324.3	8.9
20°-30°	489.8	13.5
30°-40°	590.4	16.2
40°-50°	619.8	17.1
50°-60°	579.8	16.0
60°-70°	478.9	13.2
70°-80°	326.3	9.0
80°-90°	111.3	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°	927.6	25.5
0°-40°	1517.9	41.8
0°-60°	2717.6	74.8
0°-90°	3634.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3634.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1198	1198	1198	1198	1198	
5°	1196	1195	1189	1196	1196	113
15°	1143	1144	1145	1158	1160	322
25°	1043	1048	1060	1080	1086	480
35°	907	916	940	972	981	567
45°	746	762	801	844	860	576
55°	573	596	649	702	722	511
65°	387	420	487	549	570	384
75°	200	246	321	381	403	213
85°	41	81	113	128	133	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1198.5	1198.5	1198.5	1198.5	1198.5
2.5°	1199.7	1198.5	1192.4	1198.5	1197.3
5°	1196.1	1194.8	1188.8	1196.1	1196.1
7.5°	1187.6	1187.6	1181.6	1190.0	1191.2
10°	1175.6	1175.6	1171.9	1181.6	1181.6
12.5°	1161.1	1161.1	1161.1	1170.7	1171.9
15°	1143.0	1144.2	1145.4	1157.5	1159.9
17.5°	1121.3	1123.7	1127.3	1141.8	1144.2
20°	1098.4	1100.8	1106.8	1123.7	1127.3
22.5°	1069.5	1075.5	1083.9	1103.2	1106.8
25°	1042.9	1047.7	1059.8	1080.3	1086.3
27.5°	1010.4	1017.6	1033.3	1055.0	1063.4
30°	977.8	985.1	1004.3	1029.7	1036.9
32.5°	942.9	953.7	974.2	1000.7	1009.2
35°	906.7	916.3	940.4	971.8	981.4
37.5°	866.9	880.2	906.7	940.4	952.5
40°	828.3	842.8	872.9	909.1	923.6
42.5°	789.7	804.2	838.0	879.0	893.4
45°	746.3	762.0	800.6	844.0	859.7
47.5°	702.9	722.2	764.4	810.2	827.1
50°	658.3	680.0	725.8	774.1	793.3
52.5°	618.5	639.0	687.2	739.1	757.2
55°	572.7	595.6	648.7	701.7	722.2
57.5°	525.7	551.0	607.7	665.5	686.0
60°	479.9	507.6	570.3	628.2	651.1
62.5°	435.3	463.0	528.1	588.4	611.3
65°	387.0	419.6	487.1	548.6	570.3
67.5°	341.2	376.2	447.3	507.6	529.3
70°	296.6	330.4	406.3	465.4	487.1
72.5°	248.4	287.0	362.9	424.4	447.3
75°	200.1	246.0	320.7	381.0	402.7
77.5°	155.5	202.6	277.3	326.7	337.6
80°	114.5	162.8	227.9	262.8	276.1
82.5°	73.5	121.8	173.6	198.9	209.8
85°	41.0	80.8	113.3	127.8	132.6
87.5°	16.9	35.0	45.8	51.8	51.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)