

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: P313988

Luminaire Tested: **24FCZ2-45-UNV-L83050-CP250-W2A-U-4500K**

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: P313988  
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-4500K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET  
Light Source: (168) 4500K 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: 4076.0 lumens  
Efficiency: N/A  
Efficacy: 103.5 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

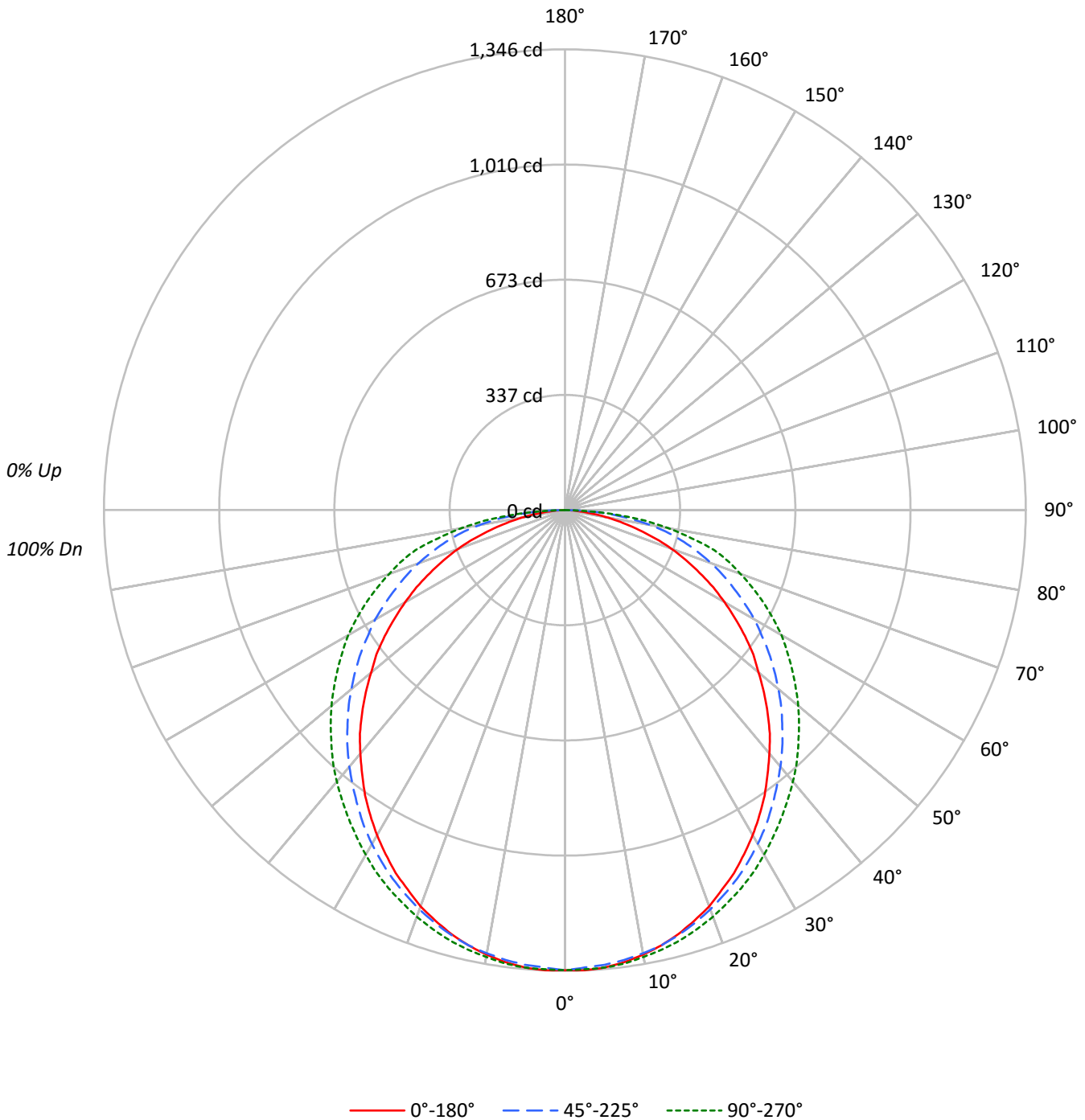
Input Watts (W): 39.4  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1809	1809	1809
5°	1812	1801	1812
10°	1801	1796	1811
15°	1786	1790	1812
20°	1764	1778	1810
25°	1737	1765	1809
30°	1704	1750	1807
35°	1670	1733	1808
40°	1632	1720	1819
45°	1593	1709	1835
50°	1546	1704	1863
55°	1507	1707	1900
60°	1448	1721	1965
65°	1382	1739	2037
70°	1309	1793	2149
75°	1167	1870	2348
80°	996	1980	2400
85°	710	1962	2297



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	127.2	3.1
10°-20°	363.8	8.9
20°-30°	549.4	13.5
30°-40°	662.2	16.2
40°-50°	695.2	17.1
50°-60°	650.4	16.0
60°-70°	537.1	13.2
70°-80°	366.0	9.0
80°-90°	124.8	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°	1040.4	25.5
0°-40°	1702.6	41.8
0°-60°	3048.1	74.8
0°-90°	4076.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4076.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1344	1344	1344	1344	1344	
5°	1342	1340	1333	1342	1342	127
15°	1282	1283	1285	1298	1301	361
25°	1170	1175	1189	1212	1218	538
35°	1017	1028	1055	1090	1101	636
45°	837	855	898	947	964	646
55°	642	668	728	787	810	573
65°	434	471	546	615	640	431
75°	224	276	360	427	452	239
85°	46	91	127	143	149	58
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1344.2	1344.2	1344.2	1344.2	1344.2
2.5°	1345.6	1344.2	1337.5	1344.2	1342.9
5°	1341.5	1340.2	1333.4	1341.5	1341.5
7.5°	1332.1	1332.1	1325.3	1334.8	1336.1
10°	1318.5	1318.5	1314.5	1325.3	1325.3
12.5°	1302.3	1302.3	1302.3	1313.1	1314.5
15°	1282.0	1283.4	1284.7	1298.2	1301.0
17.5°	1257.7	1260.4	1264.4	1280.7	1283.4
20°	1232.0	1234.7	1241.5	1260.4	1264.4
22.5°	1199.5	1206.3	1215.8	1237.4	1241.5
25°	1169.8	1175.2	1188.7	1211.7	1218.5
27.5°	1133.3	1141.4	1159.0	1183.3	1192.8
30°	1096.8	1104.9	1126.5	1154.9	1163.0
32.5°	1057.5	1069.7	1092.7	1122.4	1131.9
35°	1017.0	1027.8	1054.8	1090.0	1100.8
37.5°	972.3	987.2	1017.0	1054.8	1068.4
40°	929.1	945.3	979.1	1019.7	1035.9
42.5°	885.8	902.0	939.9	985.9	1002.1
45°	837.1	854.7	898.0	946.6	964.2
47.5°	788.4	810.1	857.4	908.8	927.7
50°	738.4	762.7	814.1	868.2	889.8
52.5°	693.8	716.7	770.8	829.0	849.3
55°	642.4	668.1	727.6	787.1	810.1
57.5°	589.6	618.0	681.6	746.5	769.5
60°	538.2	569.3	639.7	704.6	730.3
62.5°	488.2	519.3	592.3	659.9	685.6
65°	434.1	470.6	546.3	615.3	639.7
67.5°	382.7	421.9	501.7	569.3	593.7
70°	332.7	370.5	455.7	522.0	546.3
72.5°	278.6	321.9	407.1	476.0	501.7
75°	224.5	275.9	359.7	427.3	451.7
77.5°	174.5	227.2	311.0	366.5	378.7
80°	128.5	182.6	255.6	294.8	309.7
82.5°	82.5	136.6	194.7	223.1	235.3
85°	46.0	90.6	127.1	143.3	148.8
87.5°	18.9	39.2	51.4	58.2	58.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)