

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: P313976

Luminaire Tested: **24FCZ2-45-UNV-L83050-CP125-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: P313976
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-CP125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" 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: 4048.0 lumens
Efficiency: N/A
Efficacy: 107.7 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

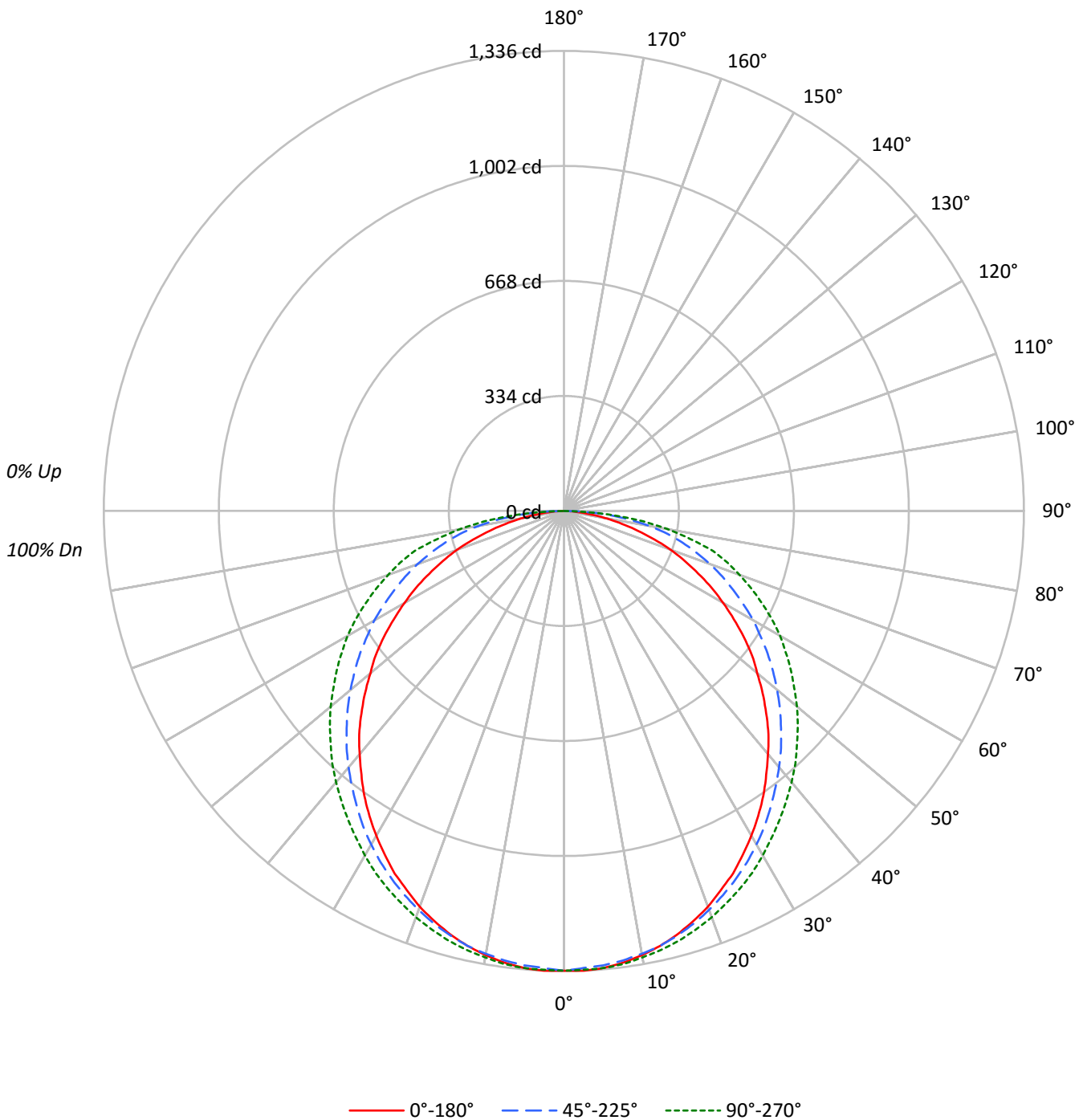
Input Watts (W): 37.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1796	1796	1796
5°	1799	1789	1799
10°	1789	1783	1798
15°	1774	1777	1800
20°	1752	1765	1798
25°	1725	1753	1796
30°	1692	1738	1794
35°	1659	1721	1796
40°	1621	1708	1807
45°	1582	1697	1822
50°	1535	1692	1850
55°	1497	1695	1887
60°	1438	1710	1951
65°	1372	1727	2023
70°	1300	1781	2135
75°	1159	1857	2332
80°	989	1967	2383
85°	706	1948	2280



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.3	3.1
10°-20°	361.3	8.9
20°-30°	545.6	13.5
30°-40°	657.6	16.2
40°-50°	690.4	17.1
50°-60°	645.9	16.0
60°-70°	533.4	13.2
70°-80°	363.5	9.0
80°-90°	124.0	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°	1033.2	25.5
0°-40°	1690.9	41.8
0°-60°	3027.2	74.8
0°-90°	4048.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4048.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1335	1335	1335	1335	1335	
5°	1332	1331	1324	1332	1332	126
15°	1273	1275	1276	1289	1292	359
25°	1162	1167	1180	1203	1210	535
35°	1010	1021	1048	1082	1093	631
45°	831	849	892	940	958	641
55°	638	664	723	782	804	569
65°	431	467	543	611	635	428
75°	223	274	357	424	449	238
85°	46	90	126	142	148	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1335.0	1335.0	1335.0	1335.0	1335.0
2.5°	1336.3	1335.0	1328.3	1335.0	1333.7
5°	1332.3	1331.0	1324.3	1332.3	1332.3
7.5°	1322.9	1322.9	1316.2	1325.6	1326.9
10°	1309.5	1309.5	1305.4	1316.2	1316.2
12.5°	1293.4	1293.4	1293.4	1304.1	1305.4
15°	1273.2	1274.6	1275.9	1289.3	1292.0
17.5°	1249.0	1251.7	1255.8	1271.9	1274.6
20°	1223.5	1226.2	1232.9	1251.7	1255.8
22.5°	1191.3	1198.0	1207.4	1228.9	1232.9
25°	1161.7	1167.1	1180.5	1203.4	1210.1
27.5°	1125.5	1133.5	1151.0	1175.2	1184.6
30°	1089.2	1097.3	1118.8	1147.0	1155.0
32.5°	1050.3	1062.4	1085.2	1114.7	1124.1
35°	1010.0	1020.7	1047.6	1082.5	1093.2
37.5°	965.7	980.4	1010.0	1047.6	1061.0
40°	922.7	938.8	972.4	1012.7	1028.8
42.5°	879.7	895.8	933.4	979.1	995.2
45°	831.4	848.8	891.8	940.1	957.6
47.5°	783.0	804.5	851.5	902.5	921.3
50°	733.3	757.5	808.5	862.2	883.7
52.5°	689.0	711.8	765.5	823.3	843.4
55°	638.0	663.5	722.6	781.7	804.5
57.5°	585.6	613.8	676.9	741.4	764.2
60°	534.5	565.4	635.3	699.7	725.2
62.5°	484.8	515.7	588.3	655.4	680.9
65°	431.1	467.4	542.6	611.1	635.3
67.5°	380.1	419.0	498.3	565.4	589.6
70°	330.4	368.0	452.6	518.4	542.6
72.5°	276.7	319.6	404.3	472.8	498.3
75°	222.9	274.0	357.3	424.4	448.6
77.5°	173.3	225.6	308.9	364.0	376.1
80°	127.6	181.3	253.8	292.8	307.6
82.5°	81.9	135.6	193.4	221.6	233.7
85°	45.7	90.0	126.2	142.4	147.7
87.5°	18.8	38.9	51.0	57.8	57.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)