

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: P313946

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-CA125-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: P313946
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: 24FCZ2-45HE-UNV-L83050-CA125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 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: 4086.0 lumens
Efficiency: N/A
Efficacy: 120.9 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

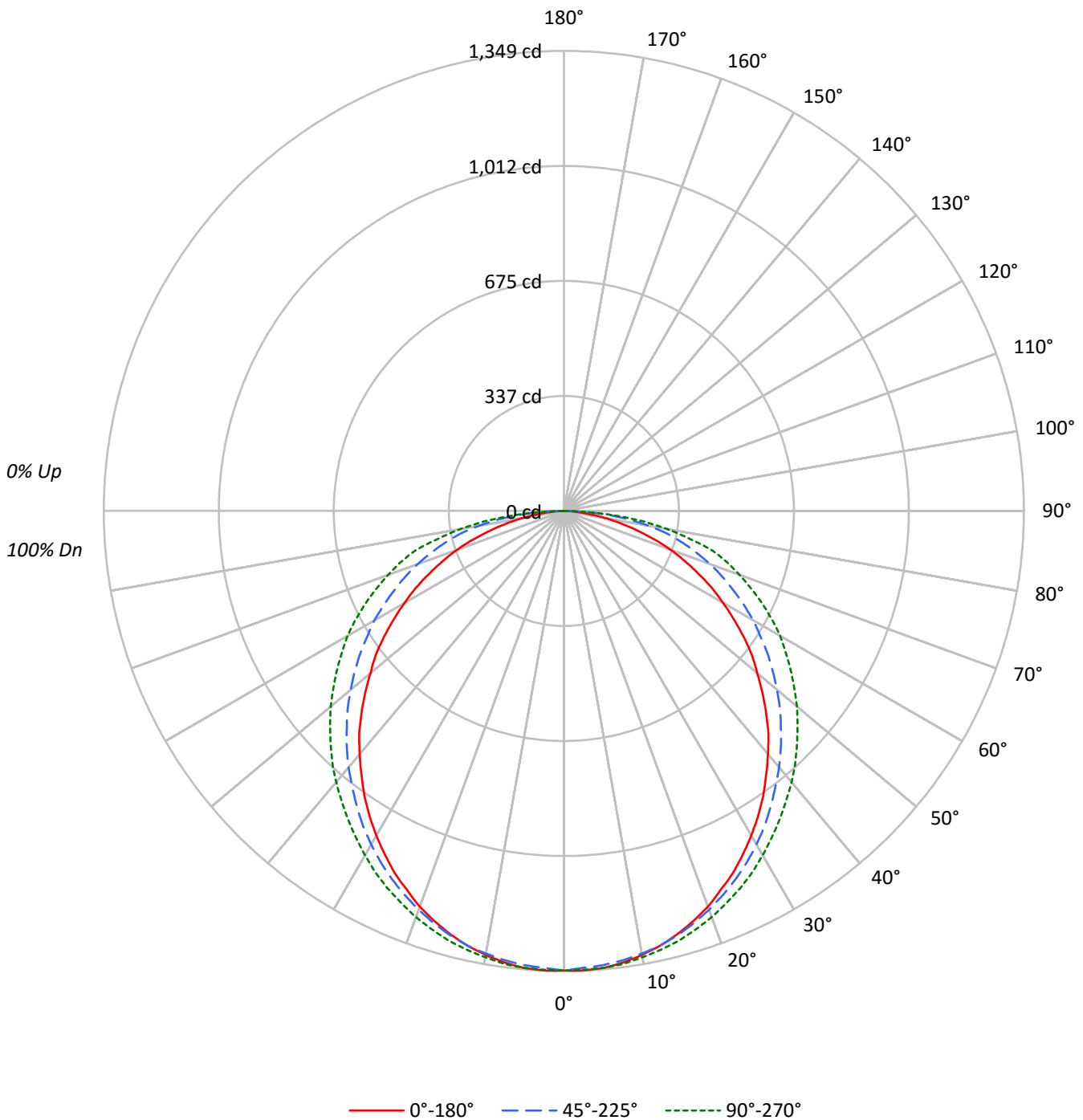
Input Watts (W): 33.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1813	1813	1813
5°	1816	1805	1816
10°	1806	1800	1815
15°	1790	1794	1817
20°	1768	1782	1815
25°	1741	1769	1813
30°	1708	1755	1811
35°	1675	1737	1813
40°	1636	1724	1824
45°	1597	1713	1839
50°	1549	1708	1867
55°	1510	1711	1905
60°	1452	1725	1970
65°	1386	1744	2041
70°	1312	1797	2155
75°	1170	1875	2354
80°	998	1985	2405
85°	712	1967	2302



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.5	3.1
10°-20°	364.6	8.9
20°-30°	550.8	13.5
30°-40°	663.8	16.2
40°-50°	696.9	17.1
50°-60°	652.0	16.0
60°-70°	538.4	13.2
70°-80°	366.9	9.0
80°-90°	125.1	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°	1042.9	25.5
0°-40°	1706.7	41.8
0°-60°	3055.6	74.8
0°-90°	4086.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4086.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1348	1348	1348	1348	1348	
5°	1345	1344	1337	1345	1345	128
15°	1285	1286	1288	1301	1304	362
25°	1173	1178	1192	1215	1222	540
35°	1020	1030	1057	1093	1104	637
45°	839	857	900	949	967	647
55°	644	670	729	789	812	575
65°	435	472	548	617	641	432
75°	225	277	361	428	453	240
85°	46	91	127	144	149	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1347.5	1347.5	1347.5	1347.5	1347.5
2.5°	1348.9	1347.5	1340.7	1347.5	1346.2
5°	1344.8	1343.5	1336.7	1344.8	1344.8
7.5°	1335.3	1335.3	1328.5	1338.0	1339.4
10°	1321.8	1321.8	1317.7	1328.5	1328.5
12.5°	1305.5	1305.5	1305.5	1316.3	1317.7
15°	1285.2	1286.5	1287.9	1301.4	1304.1
17.5°	1260.8	1263.5	1267.5	1283.8	1286.5
20°	1235.0	1237.7	1244.5	1263.5	1267.5
22.5°	1202.5	1209.2	1218.7	1240.4	1244.5
25°	1172.6	1178.1	1191.6	1214.7	1221.5
27.5°	1136.0	1144.2	1161.8	1186.2	1195.7
30°	1099.4	1107.6	1129.3	1157.7	1165.9
32.5°	1060.1	1072.3	1095.4	1125.2	1134.7
35°	1019.5	1030.3	1057.4	1092.7	1103.5
37.5°	974.7	989.6	1019.5	1057.4	1071.0
40°	931.3	947.6	981.5	1022.2	1038.4
42.5°	888.0	904.2	942.2	988.3	1004.5
45°	839.2	856.8	900.2	949.0	966.6
47.5°	790.4	812.0	859.5	911.0	930.0
50°	740.2	764.6	816.1	870.3	892.0
52.5°	695.5	718.5	772.7	831.0	851.4
55°	643.9	669.7	729.3	789.0	812.0
57.5°	591.1	619.5	683.3	748.3	771.4
60°	539.6	570.7	641.2	706.3	732.1
62.5°	489.4	520.6	593.8	661.6	687.3
65°	435.2	471.8	547.7	616.8	641.2
67.5°	383.7	423.0	503.0	570.7	595.1
70°	333.5	371.5	456.9	523.3	547.7
72.5°	279.3	322.6	408.1	477.2	503.0
75°	225.0	276.6	360.6	428.4	452.8
77.5°	174.9	227.8	311.8	367.4	379.6
80°	128.8	183.0	256.2	295.5	310.4
82.5°	82.7	136.9	195.2	223.7	235.9
85°	46.1	90.8	127.4	143.7	149.1
87.5°	19.0	39.3	51.5	58.3	58.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)