

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: P311454

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-S-CP125-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: P311454
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: 24FCZ2-45HE-UNV-L82765-S-CP125-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET
Light Source: (336) 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: 3974.0 lumens
Efficiency: N/A
Efficacy: 118.3 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

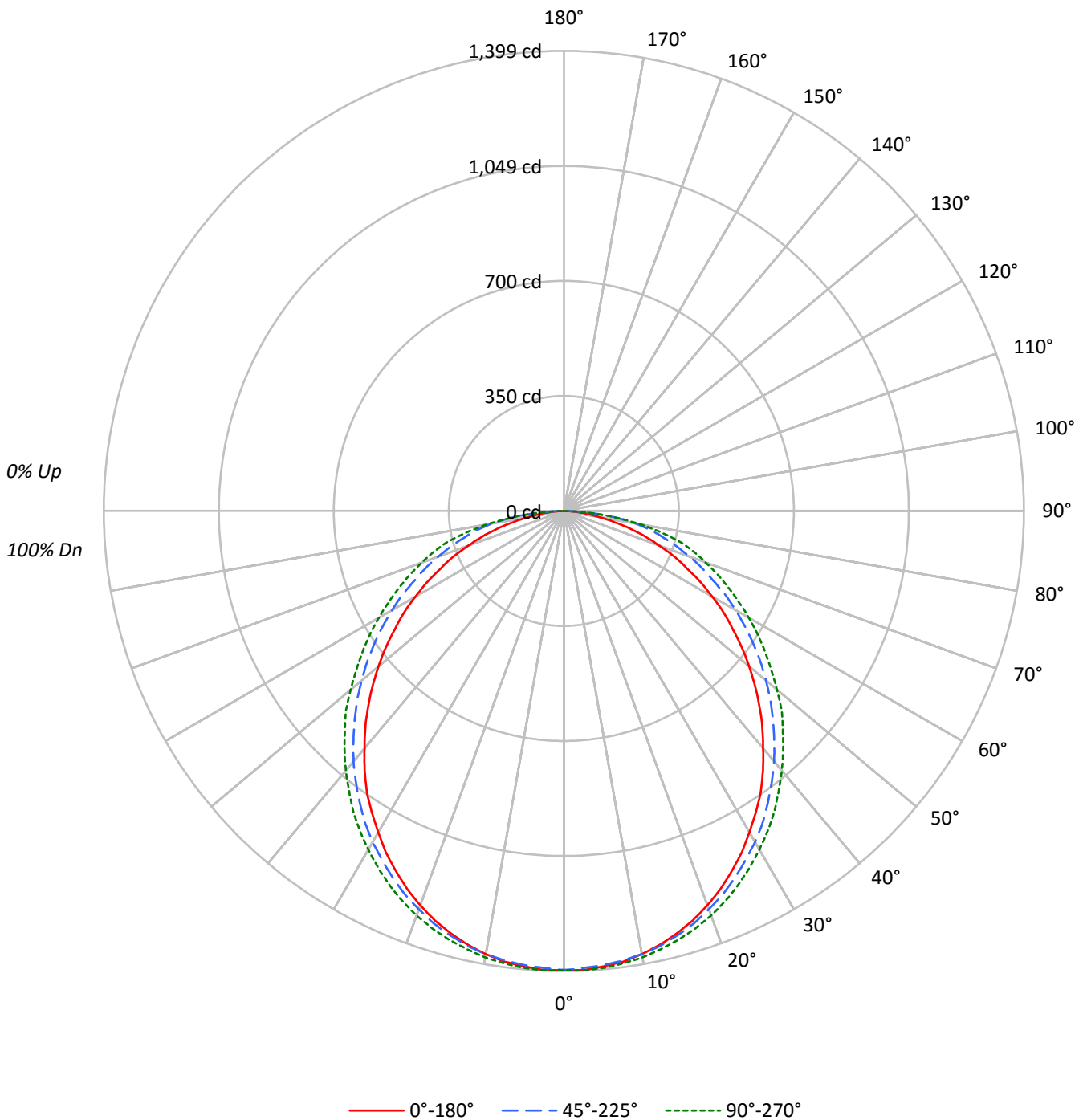
Input Watts (W): 33.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1878	1878	1878
5°	1877	1872	1884
10°	1869	1869	1883
15°	1852	1860	1880
20°	1827	1845	1874
25°	1793	1827	1863
30°	1753	1806	1847
35°	1715	1777	1833
40°	1656	1747	1811
45°	1602	1713	1792
50°	1540	1680	1770
55°	1472	1649	1753
60°	1403	1624	1749
65°	1314	1595	1760
70°	1217	1604	1808
75°	1089	1634	1909
80°	880	1731	1868
85°	662	1521	1480



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.2	3.3
10°-20°	377.7	9.5
20°-30°	567.7	14.3
30°-40°	676.2	17.0
40°-50°	692.1	17.4
50°-60°	623.1	15.7
60°-70°	489.3	12.3
70°-80°	317.6	8.0
80°-90°	98.2	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°	1077.5	27.1
0°-40°	1753.7	44.1
0°-60°	3068.9	77.2
0°-90°	3974.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3974.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1396	1396	1396	1396	1396	
5°	1390	1392	1386	1394	1395	132
15°	1329	1333	1336	1347	1349	375
25°	1208	1218	1231	1251	1255	556
35°	1044	1056	1082	1108	1116	651
45°	842	862	900	934	942	649
55°	627	655	703	740	747	562
65°	413	444	501	543	553	411
75°	210	250	314	357	367	222
85°	43	80	98	96	96	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1396.1	1396.1	1396.1	1396.1	1396.1
2.5°	1397.4	1397.4	1391.0	1397.4	1398.6
5°	1389.8	1392.3	1386.0	1393.6	1394.8
7.5°	1382.2	1382.2	1378.4	1386.0	1387.3
10°	1368.3	1369.6	1368.3	1377.2	1378.4
12.5°	1350.6	1353.2	1354.4	1363.3	1364.5
15°	1329.2	1333.0	1335.5	1346.9	1349.4
17.5°	1305.2	1309.0	1315.3	1327.9	1330.5
20°	1276.2	1281.2	1288.8	1305.2	1309.0
22.5°	1244.6	1249.7	1262.3	1277.4	1283.7
25°	1208.0	1218.1	1230.7	1250.9	1254.7
27.5°	1171.4	1180.2	1196.7	1218.1	1223.2
30°	1128.5	1142.4	1162.6	1184.0	1189.1
32.5°	1086.8	1100.7	1124.7	1147.4	1153.7
35°	1043.9	1056.5	1081.8	1108.3	1115.9
37.5°	994.7	1011.1	1038.9	1065.4	1072.9
40°	942.9	963.1	994.7	1022.5	1031.3
42.5°	893.7	915.2	946.7	977.0	987.1
45°	841.9	862.1	900.0	934.1	941.7
47.5°	788.9	811.7	852.0	886.1	898.8
50°	735.9	759.9	802.8	838.2	845.7
52.5°	682.9	708.1	753.6	791.5	795.2
55°	627.4	655.1	703.1	739.7	747.3
57.5°	576.9	600.8	652.6	690.5	699.3
60°	521.3	547.8	603.4	638.7	650.1
62.5°	468.3	496.1	554.1	589.5	599.6
65°	412.8	444.3	501.1	542.8	552.9
67.5°	364.8	395.1	455.7	496.1	506.2
70°	309.3	343.3	407.7	449.4	459.5
72.5°	261.3	296.6	361.0	401.4	416.6
75°	209.5	249.9	314.3	357.2	367.3
77.5°	159.0	205.8	271.4	304.2	304.2
80°	113.6	162.8	223.4	238.6	241.1
82.5°	74.5	122.4	165.4	164.1	164.1
85°	42.9	79.5	98.5	95.9	95.9
87.5°	16.4	32.8	35.3	35.3	34.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)