

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: P313952

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-CP125-W2A-U-4000K**

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: P313952
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-CP125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" POLYCARB SHEET
Light Source: (336) 4000K 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: 4207.0 lumens
Efficiency: N/A
Efficacy: 121.6 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

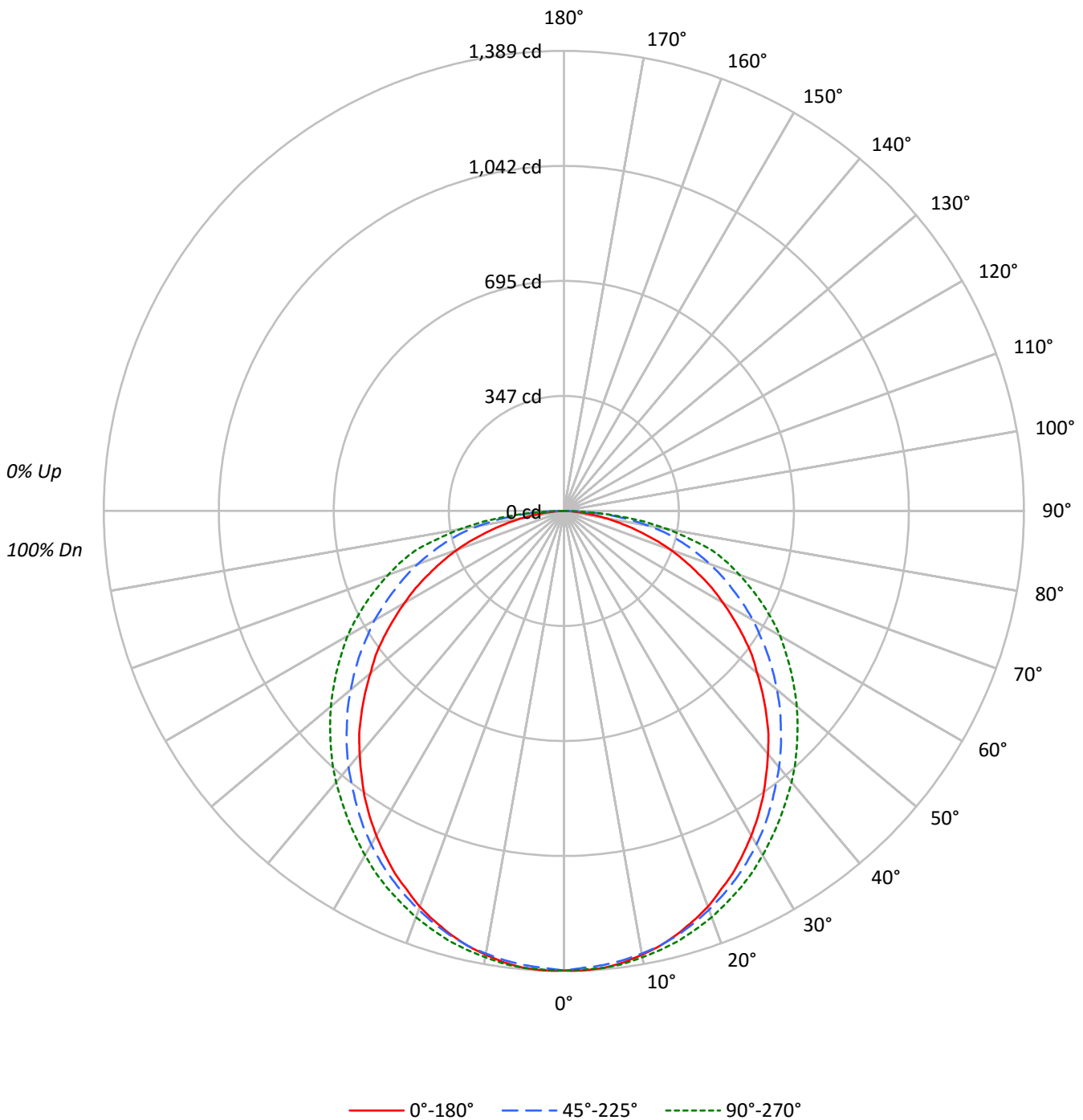
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1867	1867	1867
5°	1870	1859	1870
10°	1859	1854	1869
15°	1843	1847	1870
20°	1821	1835	1869
25°	1792	1821	1867
30°	1759	1806	1865
35°	1724	1788	1866
40°	1684	1775	1878
45°	1644	1764	1894
50°	1595	1759	1922
55°	1555	1761	1961
60°	1495	1777	2028
65°	1427	1795	2102
70°	1351	1851	2218
75°	1205	1930	2424
80°	1027	2044	2476
85°	733	2025	2370



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.3	3.1
10°-20°	375.4	8.9
20°-30°	567.1	13.5
30°-40°	683.5	16.2
40°-50°	717.5	17.1
50°-60°	671.3	16.0
60°-70°	554.4	13.2
70°-80°	377.7	9.0
80°-90°	128.8	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°	1073.8	25.5
0°-40°	1757.3	41.8
0°-60°	3146.1	74.8
0°-90°	4207.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4207.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1387	1387	1387	1387	1387	
5°	1385	1383	1376	1385	1385	131
15°	1323	1325	1326	1340	1343	373
25°	1207	1213	1227	1251	1258	556
35°	1050	1061	1089	1125	1136	656
45°	864	882	927	977	995	666
55°	663	690	751	812	836	592
65°	448	486	564	635	660	444
75°	232	285	371	441	466	247
85°	48	94	131	148	154	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1387.4	1387.4	1387.4	1387.4	1387.4
2.5°	1388.8	1387.4	1380.5	1387.4	1386.0
5°	1384.6	1383.2	1376.3	1384.6	1384.6
7.5°	1374.9	1374.9	1367.9	1377.7	1379.1
10°	1360.9	1360.9	1356.7	1367.9	1367.9
12.5°	1344.2	1344.2	1344.2	1355.3	1356.7
15°	1323.2	1324.6	1326.0	1340.0	1342.8
17.5°	1298.1	1300.9	1305.1	1321.8	1324.6
20°	1271.6	1274.4	1281.4	1300.9	1305.1
22.5°	1238.1	1245.1	1254.8	1277.2	1281.4
25°	1207.4	1213.0	1226.9	1250.6	1257.6
27.5°	1169.7	1178.1	1196.2	1221.3	1231.1
30°	1132.0	1140.4	1162.7	1192.0	1200.4
32.5°	1091.5	1104.1	1127.8	1158.5	1168.3
35°	1049.6	1060.8	1088.7	1125.0	1136.2
37.5°	1003.6	1018.9	1049.6	1088.7	1102.7
40°	958.9	975.7	1010.6	1052.4	1069.2
42.5°	914.3	931.0	970.1	1017.5	1034.3
45°	864.0	882.1	926.8	977.1	995.2
47.5°	813.8	836.1	884.9	938.0	957.5
50°	762.1	787.2	840.3	896.1	918.4
52.5°	716.0	739.8	795.6	855.6	876.6
55°	663.0	689.5	750.9	812.4	836.1
57.5°	608.6	637.9	703.5	770.5	794.2
60°	555.5	587.6	660.2	727.2	753.7
62.5°	503.9	536.0	611.4	681.2	707.7
65°	448.1	485.7	563.9	635.1	660.2
67.5°	395.0	435.5	517.8	587.6	612.8
70°	343.4	382.5	470.4	538.8	563.9
72.5°	287.5	332.2	420.1	491.3	517.8
75°	231.7	284.7	371.3	441.1	466.2
77.5°	180.1	234.5	321.0	378.3	390.8
80°	132.6	188.4	263.8	304.3	319.6
82.5°	85.1	141.0	201.0	230.3	242.9
85°	47.5	93.5	131.2	148.0	153.5
87.5°	19.5	40.5	53.0	60.0	60.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)