

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: P310802

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-CP250-W2A-U-5500K**

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: P310802
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-L82765-CP250-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 5500K 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: 3957.0 lumens
Efficiency: N/A
Efficacy: 114.0 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

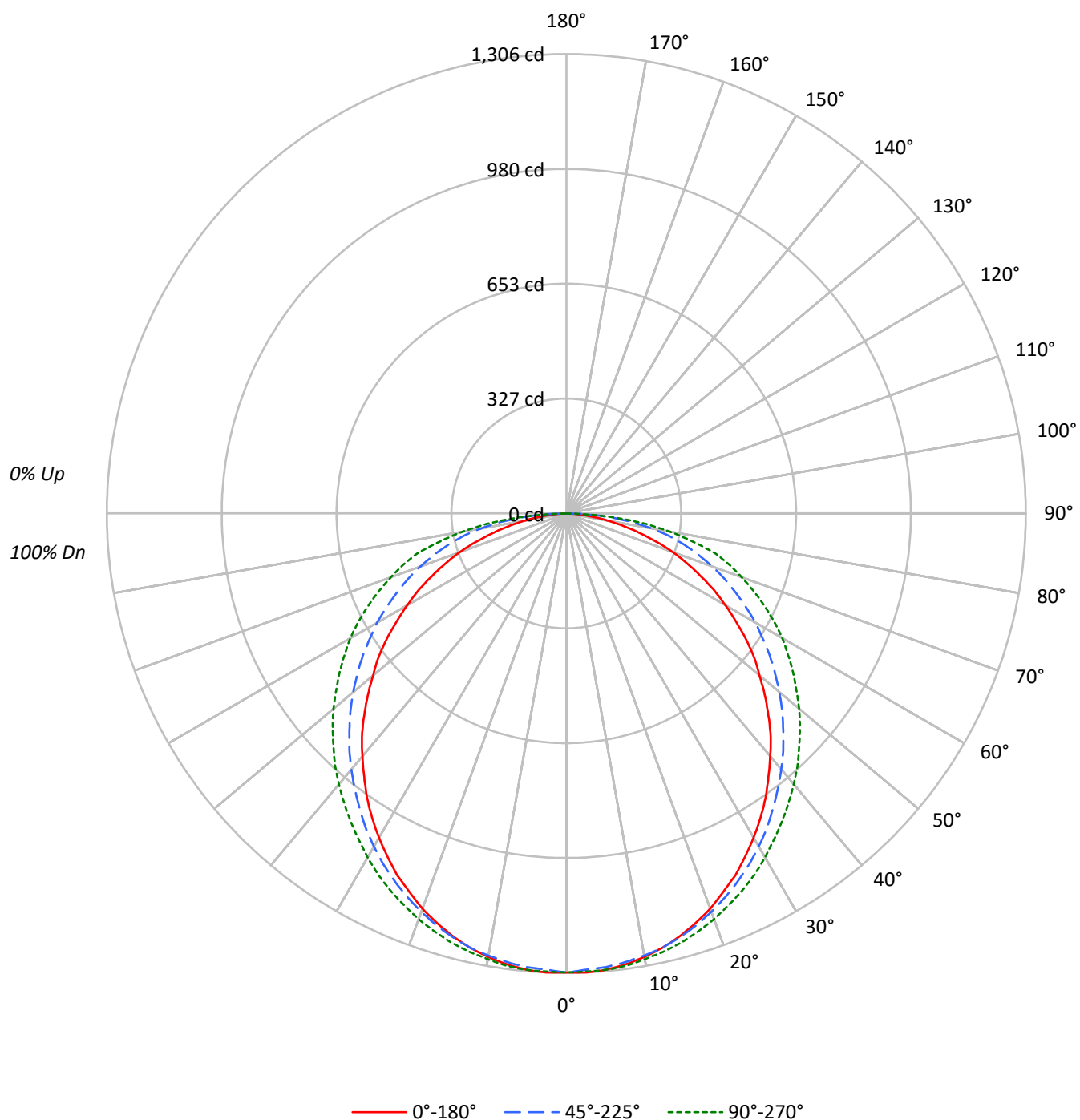
Input Watts (W): 34.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	1756	1756	1756
5°	1759	1748	1759
10°	1749	1743	1758
15°	1734	1737	1759
20°	1712	1726	1758
25°	1686	1713	1756
30°	1654	1699	1754
35°	1622	1682	1755
40°	1584	1669	1766
45°	1546	1659	1781
50°	1500	1654	1808
55°	1463	1657	1845
60°	1406	1671	1908
65°	1342	1689	1977
70°	1271	1740	2087
75°	1133	1815	2280
80°	966	1922	2329
85°	689	1905	2229



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.5	3.1
10°-20°	353.1	8.9
20°-30°	533.4	13.5
30°-40°	642.9	16.2
40°-50°	674.9	17.1
50°-60°	631.4	16.0
60°-70°	521.4	13.2
70°-80°	355.3	9.0
80°-90°	121.2	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°	1010.0	25.5
0°-40°	1652.9	41.8
0°-60°	2959.1	74.8
0°-90°	3957.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3957.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1305	1305	1305	1305	1305	
5°	1302	1301	1294	1302	1302	124
15°	1245	1246	1247	1260	1263	351
25°	1136	1141	1154	1176	1183	523
35°	987	998	1024	1058	1069	617
45°	813	830	872	919	936	627
55°	624	649	706	764	786	557
65°	421	457	530	597	621	418
75°	218	268	349	415	438	232
85°	45	88	123	139	144	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1305.0	1305.0	1305.0	1305.0	1305.0
2.5°	1306.3	1305.0	1298.4	1305.0	1303.7
5°	1302.4	1301.0	1294.5	1302.4	1302.4
7.5°	1293.2	1293.2	1286.6	1295.8	1297.1
10°	1280.0	1280.0	1276.1	1286.6	1286.6
12.5°	1264.3	1264.3	1264.3	1274.8	1276.1
15°	1244.6	1245.9	1247.2	1260.3	1263.0
17.5°	1221.0	1223.6	1227.5	1243.3	1245.9
20°	1196.0	1198.6	1205.2	1223.6	1227.5
22.5°	1164.5	1171.1	1180.3	1201.3	1205.2
25°	1135.6	1140.9	1154.0	1176.3	1182.9
27.5°	1100.2	1108.1	1125.1	1148.8	1157.9
30°	1064.7	1072.6	1093.6	1121.2	1129.1
32.5°	1026.7	1038.5	1060.8	1089.7	1098.9
35°	987.3	997.8	1024.0	1058.2	1068.7
37.5°	943.9	958.4	987.3	1024.0	1037.2
40°	901.9	917.7	950.5	989.9	1005.7
42.5°	859.9	875.7	912.4	957.1	972.8
45°	812.7	829.7	871.7	919.0	936.1
47.5°	765.4	786.4	832.4	882.2	900.6
50°	716.8	740.5	790.3	842.9	863.9
52.5°	673.5	695.8	748.3	804.8	824.5
55°	623.6	648.6	706.3	764.1	786.4
57.5°	572.4	600.0	661.7	724.7	747.0
60°	522.5	552.7	621.0	684.0	708.9
62.5°	473.9	504.1	575.0	640.7	665.6
65°	421.4	456.9	530.4	597.4	621.0
67.5°	371.5	409.6	487.1	552.7	576.3
70°	323.0	359.7	442.4	506.8	530.4
72.5°	270.4	312.5	395.2	462.1	487.1
75°	217.9	267.8	349.2	414.9	438.5
77.5°	169.4	220.6	302.0	355.8	367.6
80°	124.7	177.2	248.1	286.2	300.6
82.5°	80.1	132.6	189.1	216.6	228.4
85°	44.6	88.0	123.4	139.2	144.4
87.5°	18.4	38.1	49.9	56.5	56.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)