

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: P310804

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-CP250-W2A-U-6500K**

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: P310804
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-6500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 6500K 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: 3978.0 lumens
Efficiency: N/A
Efficacy: 112.7 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

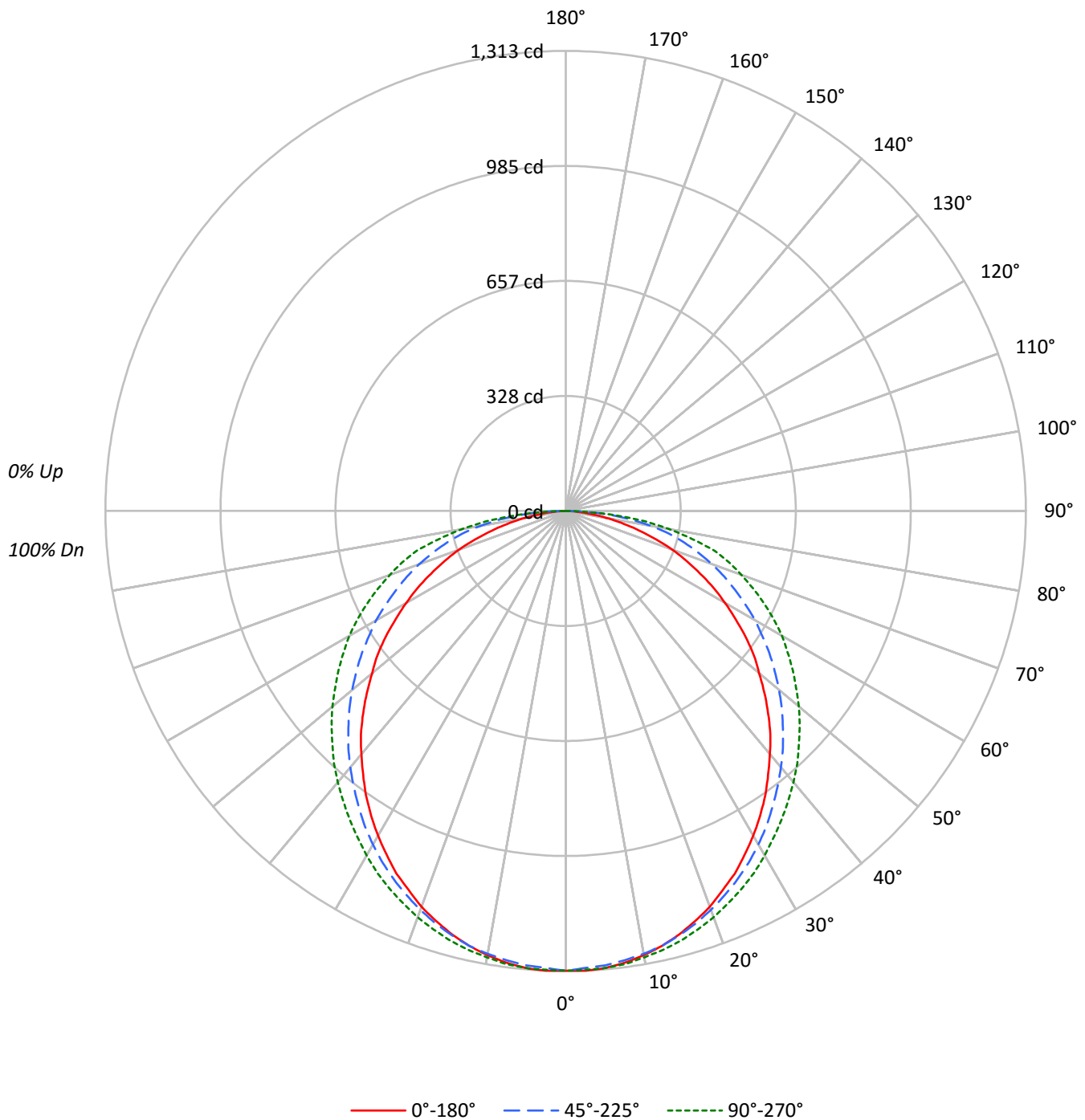
Input Watts (W): 35.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1765	1765	1765
5°	1768	1758	1768
10°	1758	1753	1767
15°	1743	1746	1769
20°	1722	1735	1767
25°	1695	1722	1765
30°	1663	1708	1764
35°	1630	1691	1765
40°	1593	1678	1776
45°	1555	1668	1791
50°	1508	1663	1818
55°	1471	1666	1855
60°	1414	1680	1918
65°	1349	1698	1988
70°	1277	1750	2098
75°	1139	1825	2292
80°	972	1932	2342
85°	693	1916	2242



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.2	3.1
10°-20°	355.0	8.9
20°-30°	536.2	13.5
30°-40°	646.3	16.2
40°-50°	678.5	17.1
50°-60°	634.7	16.0
60°-70°	524.2	13.2
70°-80°	357.2	9.0
80°-90°	121.8	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°	1015.4	25.5
0°-40°	1661.6	41.8
0°-60°	2974.8	74.8
0°-90°	3978.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3978.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1312	1312	1312	1312	1312	
5°	1309	1308	1301	1309	1309	124
15°	1251	1252	1254	1267	1270	353
25°	1142	1147	1160	1183	1189	525
35°	992	1003	1030	1064	1074	620
45°	817	834	876	924	941	630
55°	627	652	710	768	791	560
65°	424	459	533	600	624	420
75°	219	269	351	417	441	234
85°	45	88	124	140	145	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1311.9	1311.9	1311.9	1311.9	1311.9
2.5°	1313.2	1311.9	1305.3	1311.9	1310.6
5°	1309.3	1308.0	1301.4	1309.3	1309.3
7.5°	1300.0	1300.0	1293.4	1302.7	1304.0
10°	1286.8	1286.8	1282.9	1293.4	1293.4
12.5°	1271.0	1271.0	1271.0	1281.6	1282.9
15°	1251.2	1252.5	1253.8	1267.0	1269.7
17.5°	1227.4	1230.1	1234.0	1249.9	1252.5
20°	1202.4	1205.0	1211.6	1230.1	1234.0
22.5°	1170.7	1177.3	1186.5	1207.6	1211.6
25°	1141.7	1146.9	1160.1	1182.6	1189.2
27.5°	1106.0	1113.9	1131.1	1154.9	1164.1
30°	1070.4	1078.3	1099.4	1127.1	1135.1
32.5°	1032.1	1044.0	1066.4	1095.5	1104.7
35°	992.5	1003.1	1029.5	1063.8	1074.3
37.5°	949.0	963.5	992.5	1029.5	1042.7
40°	906.7	922.6	955.6	995.2	1011.0
42.5°	864.5	880.3	917.3	962.2	978.0
45°	817.0	834.1	876.4	923.9	941.0
47.5°	769.5	790.6	836.8	886.9	905.4
50°	720.6	744.4	794.5	847.3	868.4
52.5°	677.1	699.5	752.3	809.1	828.9
55°	626.9	652.0	710.1	768.1	790.6
57.5°	575.4	603.2	665.2	728.5	751.0
60°	525.3	555.6	624.3	687.6	712.7
62.5°	476.5	506.8	578.1	644.1	669.2
65°	423.7	459.3	533.2	600.5	624.3
67.5°	373.5	411.8	489.7	555.6	579.4
70°	324.7	361.6	444.8	509.5	533.2
72.5°	271.9	314.1	397.3	464.6	489.7
75°	219.1	269.2	351.1	417.1	440.8
77.5°	170.3	221.7	303.6	357.7	369.6
80°	125.4	178.2	249.4	287.7	302.2
82.5°	80.5	133.3	190.1	217.8	229.7
85°	44.9	88.4	124.1	139.9	145.2
87.5°	18.5	38.3	50.2	56.8	56.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)