

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: P314325

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-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: P314325
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-L83050-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

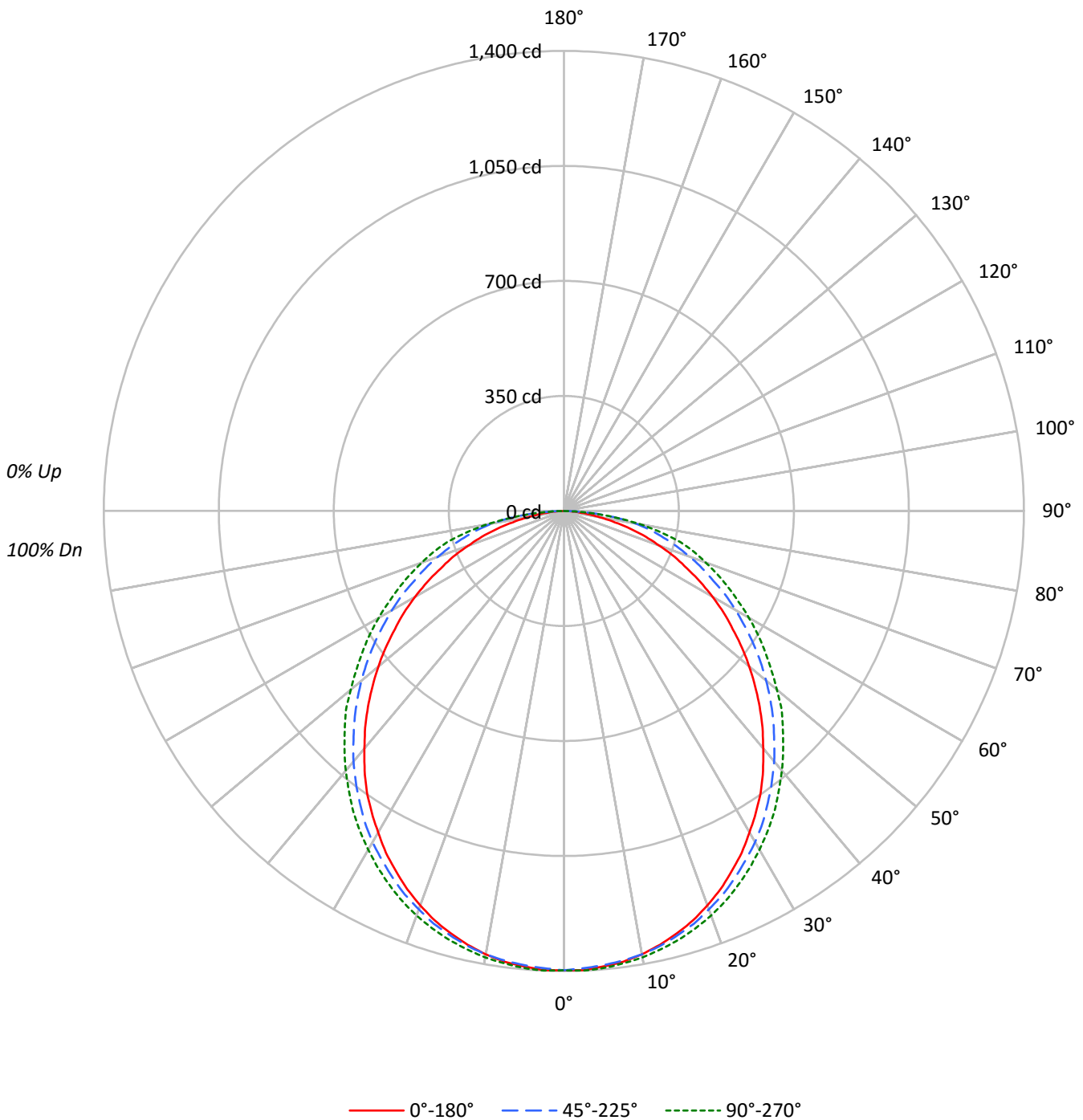
Lumens per Lamp: N/A
Luminaire Lumens: 3978.0 lumens
Efficiency: N/A
Efficacy: 118.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.7
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°	1880	1880	1880
5°	1879	1874	1886
10°	1871	1871	1885
15°	1853	1862	1881
20°	1829	1847	1876
25°	1795	1829	1865
30°	1755	1808	1849
35°	1716	1779	1835
40°	1658	1749	1813
45°	1604	1714	1794
50°	1542	1682	1772
55°	1473	1651	1755
60°	1404	1625	1751
65°	1316	1597	1762
70°	1218	1605	1809
75°	1091	1635	1912
80°	881	1733	1870
85°	664	1522	1482



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.3	3.3
10°-20°	378.0	9.5
20°-30°	568.3	14.3
30°-40°	676.9	17.0
40°-50°	692.8	17.4
50°-60°	623.7	15.7
60°-70°	489.8	12.3
70°-80°	317.9	8.0
80°-90°	98.3	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°	1078.6	27.1
0°-40°	1755.5	44.1
0°-60°	3072.0	77.2
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°	1398	1398	1398	1398	1398	
5°	1391	1394	1387	1395	1396	132
15°	1330	1334	1337	1348	1351	375
25°	1209	1219	1232	1252	1256	557
35°	1045	1058	1083	1109	1117	652
45°	843	863	901	935	943	650
55°	628	656	704	740	748	563
65°	413	445	502	543	553	411
75°	210	250	315	358	368	222
85°	43	80	99	96	96	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1397.5	1397.5	1397.5	1397.5	1397.5
2.5°	1398.8	1398.8	1392.4	1398.8	1400.0
5°	1391.2	1393.7	1387.4	1395.0	1396.2
7.5°	1383.6	1383.6	1379.8	1387.4	1388.7
10°	1369.7	1371.0	1369.7	1378.5	1379.8
12.5°	1352.0	1354.5	1355.8	1364.6	1365.9
15°	1330.5	1334.3	1336.8	1348.2	1350.7
17.5°	1306.5	1310.3	1316.6	1329.3	1331.8
20°	1277.5	1282.5	1290.1	1306.5	1310.3
22.5°	1245.9	1250.9	1263.6	1278.7	1285.0
25°	1209.2	1219.3	1232.0	1252.2	1256.0
27.5°	1172.6	1181.4	1197.9	1219.3	1224.4
30°	1129.6	1143.5	1163.7	1185.2	1190.3
32.5°	1087.9	1101.8	1125.8	1148.6	1154.9
35°	1045.0	1057.6	1082.9	1109.4	1117.0
37.5°	995.7	1012.1	1039.9	1066.4	1074.0
40°	943.9	964.1	995.7	1023.5	1032.3
42.5°	894.6	916.1	947.7	978.0	988.1
45°	842.8	863.0	900.9	935.0	942.6
47.5°	789.7	812.5	852.9	887.0	899.7
50°	736.7	760.7	803.6	839.0	846.6
52.5°	683.6	708.9	754.3	792.3	796.0
55°	628.0	655.8	703.8	740.4	748.0
57.5°	577.4	601.5	653.3	691.2	700.0
60°	521.9	548.4	604.0	639.4	650.7
62.5°	468.8	496.6	554.7	590.1	600.2
65°	413.2	444.8	501.6	543.3	553.4
67.5°	365.2	395.5	456.1	496.6	506.7
70°	309.6	343.7	408.1	449.8	459.9
72.5°	261.6	296.9	361.4	401.8	417.0
75°	209.8	250.2	314.6	357.6	367.7
77.5°	159.2	206.0	271.7	304.5	304.5
80°	113.7	163.0	223.7	238.8	241.3
82.5°	74.6	122.6	165.5	164.3	164.3
85°	43.0	79.6	98.6	96.0	96.0
87.5°	16.4	32.9	35.4	35.4	34.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)