

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: P314336

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-S-CP250-W2A-U-3500K**

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: P314336
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-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 3500K 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: 3999.0 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

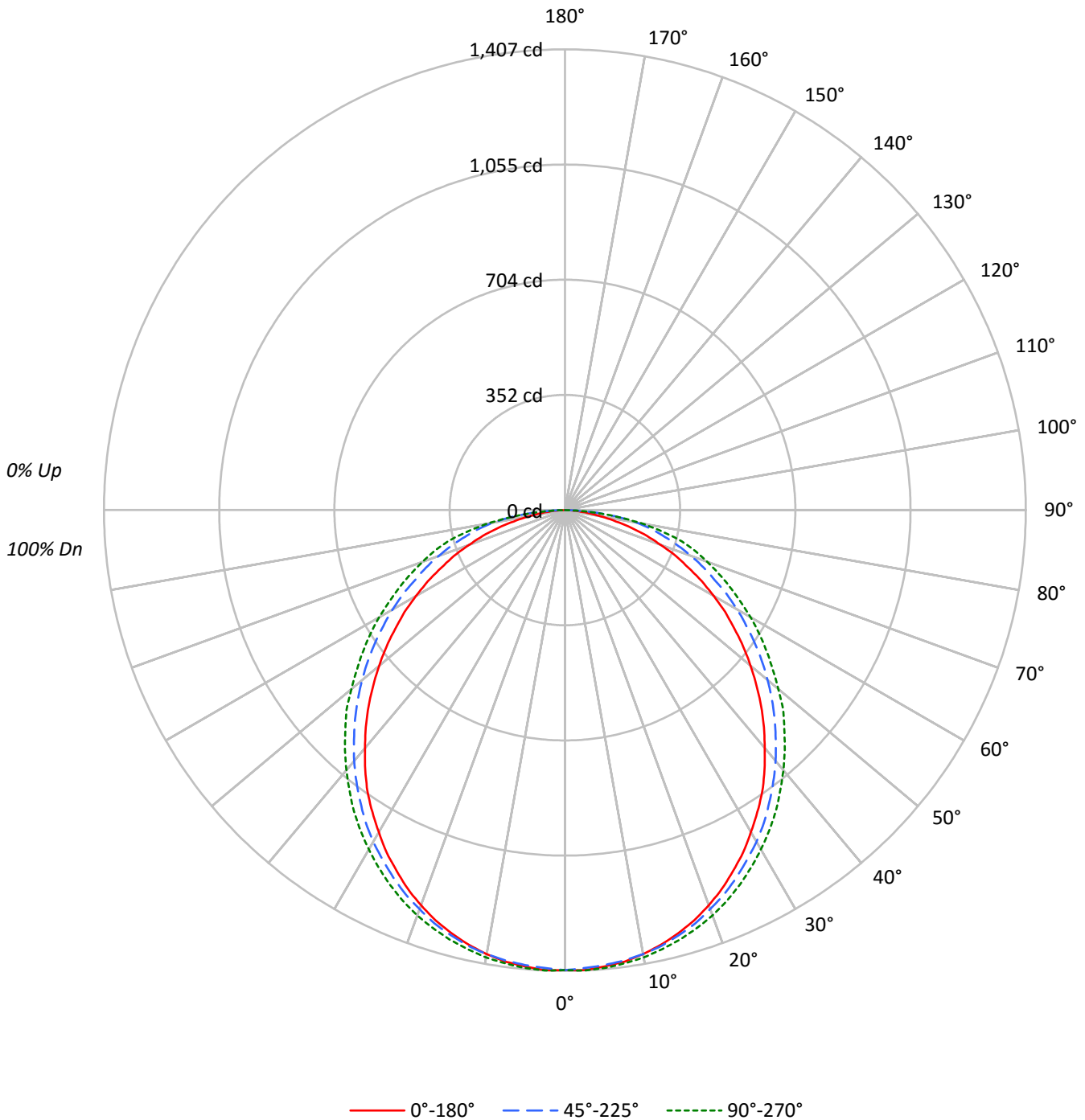
Input Watts (W): 33.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1890	1890	1890
5°	1889	1884	1896
10°	1881	1881	1895
15°	1863	1872	1891
20°	1839	1857	1886
25°	1805	1839	1874
30°	1764	1818	1859
35°	1725	1788	1844
40°	1667	1758	1823
45°	1612	1723	1803
50°	1550	1691	1782
55°	1481	1660	1764
60°	1412	1634	1760
65°	1323	1606	1771
70°	1224	1614	1819
75°	1096	1644	1921
80°	886	1742	1880
85°	667	1530	1490



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.0	3.3
10°-20°	380.0	9.5
20°-30°	571.3	14.3
30°-40°	680.5	17.0
40°-50°	696.4	17.4
50°-60°	627.0	15.7
60°-70°	492.4	12.3
70°-80°	319.6	8.0
80°-90°	98.8	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°	1084.3	27.1
0°-40°	1764.8	44.1
0°-60°	3088.2	77.2
0°-90°	3999.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3999.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1405	1405	1405	1405	1405	
5°	1398	1401	1395	1402	1404	133
15°	1338	1341	1344	1355	1358	377
25°	1216	1226	1238	1259	1263	560
35°	1050	1063	1089	1115	1123	655
45°	847	868	906	940	948	653
55°	631	659	708	744	752	566
65°	415	447	504	546	556	414
75°	211	252	316	360	370	223
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°	1404.9	1404.9	1404.9	1404.9	1404.9
2.5°	1406.1	1406.1	1399.8	1406.1	1407.4
5°	1398.5	1401.1	1394.7	1402.3	1403.6
7.5°	1390.9	1390.9	1387.1	1394.7	1396.0
10°	1376.9	1378.2	1376.9	1385.8	1387.1
12.5°	1359.1	1361.7	1363.0	1371.8	1373.1
15°	1337.6	1341.4	1343.9	1355.3	1357.9
17.5°	1313.4	1317.2	1323.6	1336.3	1338.8
20°	1284.2	1289.3	1296.9	1313.4	1317.2
22.5°	1252.4	1257.5	1270.2	1285.5	1291.8
25°	1215.6	1225.8	1238.5	1258.8	1262.6
27.5°	1178.8	1187.7	1204.2	1225.8	1230.9
30°	1135.6	1149.6	1169.9	1191.5	1196.6
32.5°	1093.7	1107.6	1131.8	1154.6	1161.0
35°	1050.5	1063.2	1088.6	1115.3	1122.9
37.5°	1000.9	1017.5	1045.4	1072.1	1079.7
40°	948.9	969.2	1000.9	1028.9	1037.8
42.5°	899.3	920.9	952.7	983.2	993.3
45°	847.2	867.6	905.7	940.0	947.6
47.5°	793.9	816.8	857.4	891.7	904.4
50°	740.5	764.7	807.9	843.4	851.1
52.5°	687.2	712.6	758.3	796.4	800.2
55°	631.3	659.2	707.5	744.4	752.0
57.5°	580.5	604.6	656.7	694.8	703.7
60°	524.6	551.3	607.2	642.7	654.2
62.5°	471.3	499.2	557.6	593.2	603.4
65°	415.4	447.1	504.3	546.2	556.4
67.5°	367.1	397.6	458.6	499.2	509.4
70°	311.2	345.5	410.3	452.2	462.4
72.5°	262.9	298.5	363.3	403.9	419.2
75°	210.9	251.5	316.3	359.5	369.6
77.5°	160.0	207.0	273.1	306.1	306.1
80°	114.3	163.9	224.8	240.1	242.6
82.5°	74.9	123.2	166.4	165.1	165.1
85°	43.2	80.0	99.1	96.5	96.5
87.5°	16.5	33.0	35.6	35.6	34.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)