

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: P314337

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-S-CP250-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: P314337
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-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" 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: 4199.0 lumens
Efficiency: N/A
Efficacy: 121.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

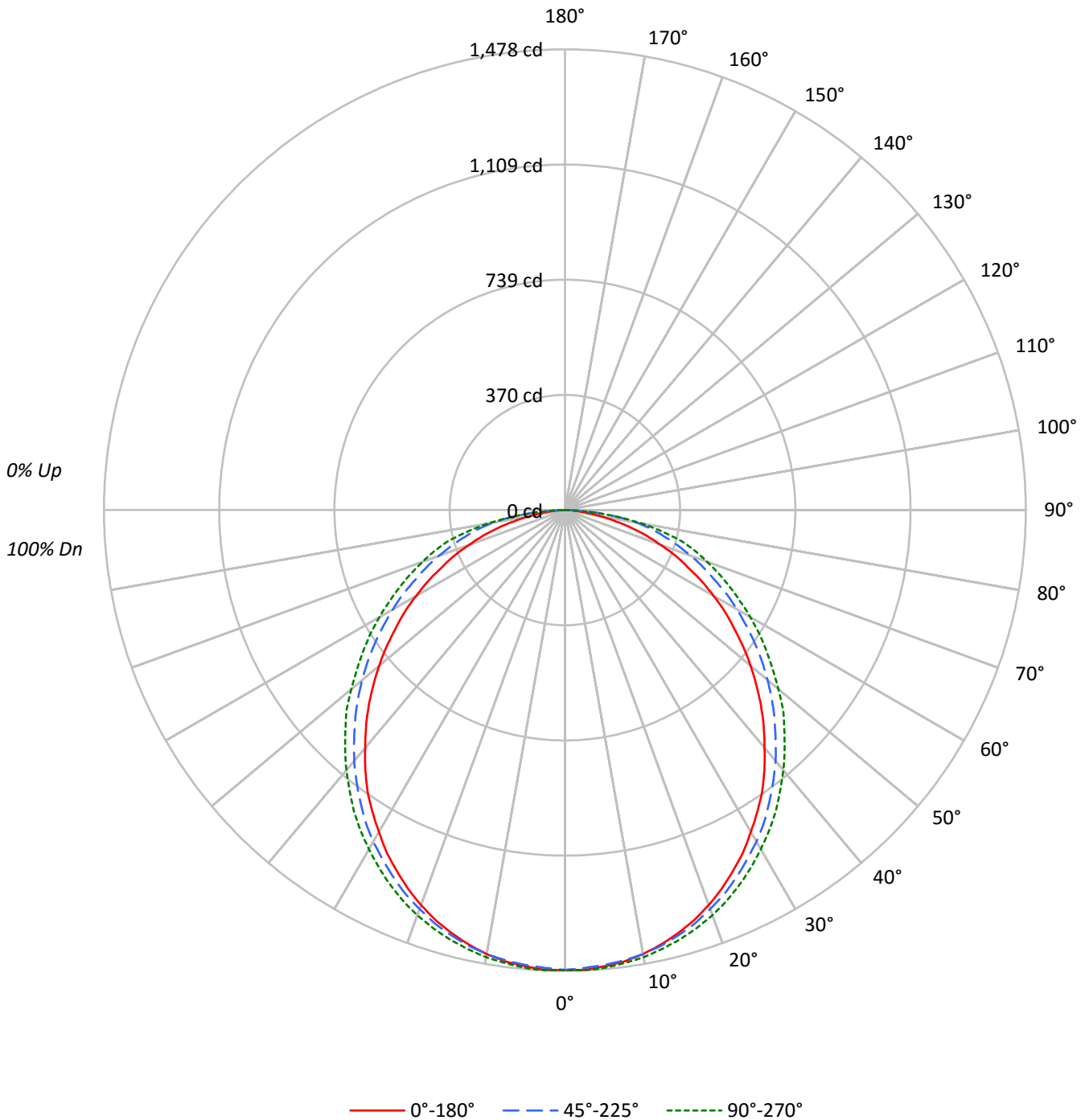
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1985	1985	1985
5°	1983	1978	1991
10°	1975	1975	1990
15°	1956	1966	1986
20°	1931	1950	1980
25°	1895	1931	1968
30°	1853	1908	1952
35°	1812	1877	1937
40°	1750	1846	1914
45°	1693	1810	1893
50°	1628	1776	1870
55°	1555	1743	1852
60°	1482	1715	1848
65°	1388	1686	1860
70°	1286	1695	1910
75°	1151	1726	2018
80°	930	1829	1974
85°	699	1606	1565



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.7	3.3
10°-20°	399.0	9.5
20°-30°	599.8	14.3
30°-40°	714.5	17.0
40°-50°	731.3	17.4
50°-60°	658.4	15.7
60°-70°	517.0	12.3
70°-80°	335.6	8.0
80°-90°	103.8	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°	1138.5	27.1
0°-40°	1853.0	44.1
0°-60°	3242.7	77.2
0°-90°	4199.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4199.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1475	1475	1475	1475	1475	
5°	1468	1471	1464	1472	1474	140
15°	1404	1408	1411	1423	1426	396
25°	1276	1287	1300	1322	1326	588
35°	1103	1116	1143	1171	1179	688
45°	890	911	951	987	995	686
55°	663	692	743	782	790	594
65°	436	470	530	574	584	434
75°	221	264	332	378	388	234
85°	45	84	104	101	101	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1475.1	1475.1	1475.1	1475.1	1475.1
2.5°	1476.5	1476.5	1469.8	1476.5	1477.8
5°	1468.5	1471.1	1464.5	1472.5	1473.8
7.5°	1460.5	1460.5	1456.5	1464.5	1465.8
10°	1445.8	1447.1	1445.8	1455.1	1456.5
12.5°	1427.1	1429.8	1431.1	1440.5	1441.8
15°	1404.4	1408.4	1411.1	1423.1	1425.8
17.5°	1379.1	1383.1	1389.8	1403.1	1405.8
20°	1348.4	1353.8	1361.8	1379.1	1383.1
22.5°	1315.1	1320.4	1333.8	1349.8	1356.4
25°	1276.4	1287.1	1300.4	1321.8	1325.8
27.5°	1237.7	1247.1	1264.4	1287.1	1292.4
30°	1192.4	1207.1	1228.4	1251.1	1256.4
32.5°	1148.4	1163.0	1188.4	1212.4	1219.1
35°	1103.0	1116.4	1143.0	1171.0	1179.0
37.5°	1051.0	1068.3	1097.7	1125.7	1133.7
40°	996.3	1017.7	1051.0	1080.3	1089.7
42.5°	944.3	967.0	1000.3	1032.3	1043.0
45°	889.6	911.0	951.0	987.0	995.0
47.5°	833.6	857.6	900.3	936.3	949.6
50°	777.6	802.9	848.3	885.6	893.6
52.5°	721.6	748.2	796.3	836.3	840.3
55°	662.9	692.2	742.9	781.6	789.6
57.5°	609.5	634.9	689.6	729.6	738.9
60°	550.8	578.9	637.5	674.9	686.9
62.5°	494.8	524.2	585.5	622.9	633.5
65°	436.1	469.5	529.5	573.5	584.2
67.5°	385.5	417.5	481.5	524.2	534.8
70°	326.8	362.8	430.8	474.8	485.5
72.5°	276.1	313.4	381.5	424.1	440.1
75°	221.4	264.1	332.1	377.5	388.1
77.5°	168.1	217.4	286.8	321.4	321.4
80°	120.0	172.1	236.1	252.1	254.7
82.5°	78.7	129.4	174.7	173.4	173.4
85°	45.3	84.0	104.0	101.4	101.4
87.5°	17.3	34.7	37.3	37.3	36.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)