

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: P314321

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-S-CA125-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: P314321
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-CA125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC 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: 4293.0 lumens
Efficiency: N/A
Efficacy: 127.0 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

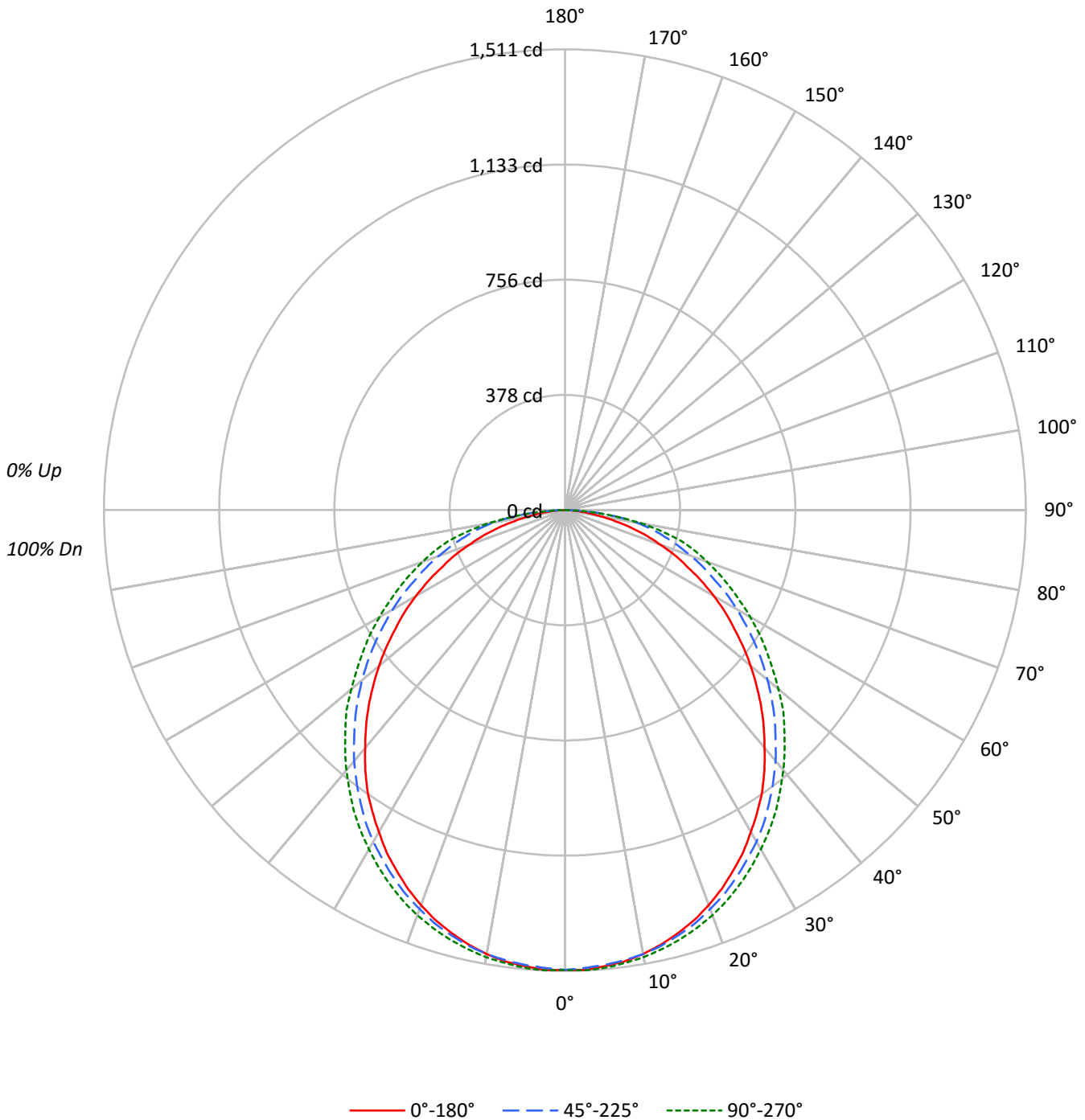
Input Watts (W): 33.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2029	2029	2029
5°	2028	2022	2035
10°	2020	2020	2034
15°	2000	2010	2031
20°	1974	1994	2025
25°	1937	1974	2012
30°	1894	1951	1996
35°	1852	1919	1980
40°	1789	1887	1957
45°	1731	1850	1936
50°	1664	1815	1912
55°	1590	1782	1894
60°	1516	1754	1890
65°	1420	1724	1902
70°	1314	1733	1953
75°	1177	1765	2063
80°	951	1870	2018
85°	716	1643	1599



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.8	3.3
10°-20°	408.0	9.5
20°-30°	613.3	14.3
30°-40°	730.5	17.0
40°-50°	747.6	17.4
50°-60°	673.1	15.7
60°-70°	528.6	12.3
70°-80°	343.1	8.0
80°-90°	106.1	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°	1164.0	27.1
0°-40°	1894.5	44.1
0°-60°	3315.2	77.2
0°-90°	4293.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4293.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1508	1508	1508	1508	1508	
5°	1501	1504	1497	1505	1507	143
15°	1436	1440	1443	1455	1458	405
25°	1305	1316	1330	1351	1355	601
35°	1128	1141	1169	1197	1205	704
45°	910	931	972	1009	1017	701
55°	678	708	760	799	807	608
65°	446	480	541	586	597	444
75°	226	270	340	386	397	240
85°	46	86	106	104	104	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1508.2	1508.2	1508.2	1508.2	1508.2
2.5°	1509.5	1509.5	1502.7	1509.5	1510.9
5°	1501.3	1504.1	1497.3	1505.4	1506.8
7.5°	1493.2	1493.2	1489.1	1497.3	1498.6
10°	1478.2	1479.5	1478.2	1487.7	1489.1
12.5°	1459.1	1461.8	1463.2	1472.7	1474.1
15°	1435.9	1440.0	1442.7	1455.0	1457.7
17.5°	1410.0	1414.1	1420.9	1434.5	1437.3
20°	1378.6	1384.1	1392.3	1410.0	1414.1
22.5°	1344.5	1350.0	1363.6	1380.0	1386.8
25°	1305.0	1315.9	1329.5	1351.3	1355.4
27.5°	1265.4	1275.0	1292.7	1315.9	1321.3
30°	1219.1	1234.1	1255.9	1279.1	1284.5
32.5°	1174.1	1189.1	1215.0	1239.5	1246.3
35°	1127.7	1141.3	1168.6	1197.3	1205.4
37.5°	1074.5	1092.3	1122.3	1150.9	1159.1
40°	1018.6	1040.4	1074.5	1104.5	1114.1
42.5°	965.4	988.6	1022.7	1055.4	1066.3
45°	909.5	931.3	972.3	1009.1	1017.3
47.5°	852.3	876.8	920.4	957.3	970.9
50°	795.0	820.9	867.3	905.4	913.6
52.5°	737.7	765.0	814.1	855.0	859.1
55°	677.7	707.7	759.5	799.1	807.3
57.5°	623.2	649.1	705.0	745.9	755.4
60°	563.2	591.8	651.8	690.0	702.3
62.5°	505.9	535.9	598.6	636.8	647.7
65°	445.9	480.0	541.4	586.4	597.3
67.5°	394.1	426.8	492.3	535.9	546.8
70°	334.1	370.9	440.4	485.4	496.4
72.5°	282.3	320.4	390.0	433.6	450.0
75°	226.4	270.0	339.5	385.9	396.8
77.5°	171.8	222.3	293.2	328.6	328.6
80°	122.7	175.9	241.4	257.7	260.5
82.5°	80.5	132.3	178.6	177.3	177.3
85°	46.4	85.9	106.4	103.6	103.6
87.5°	17.7	35.5	38.2	38.2	36.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)