

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: P311447

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-S-CA125-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: P311447
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-L82765-S-CA125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC 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: 4286.0 lumens
Efficiency: N/A
Efficacy: 125.3 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

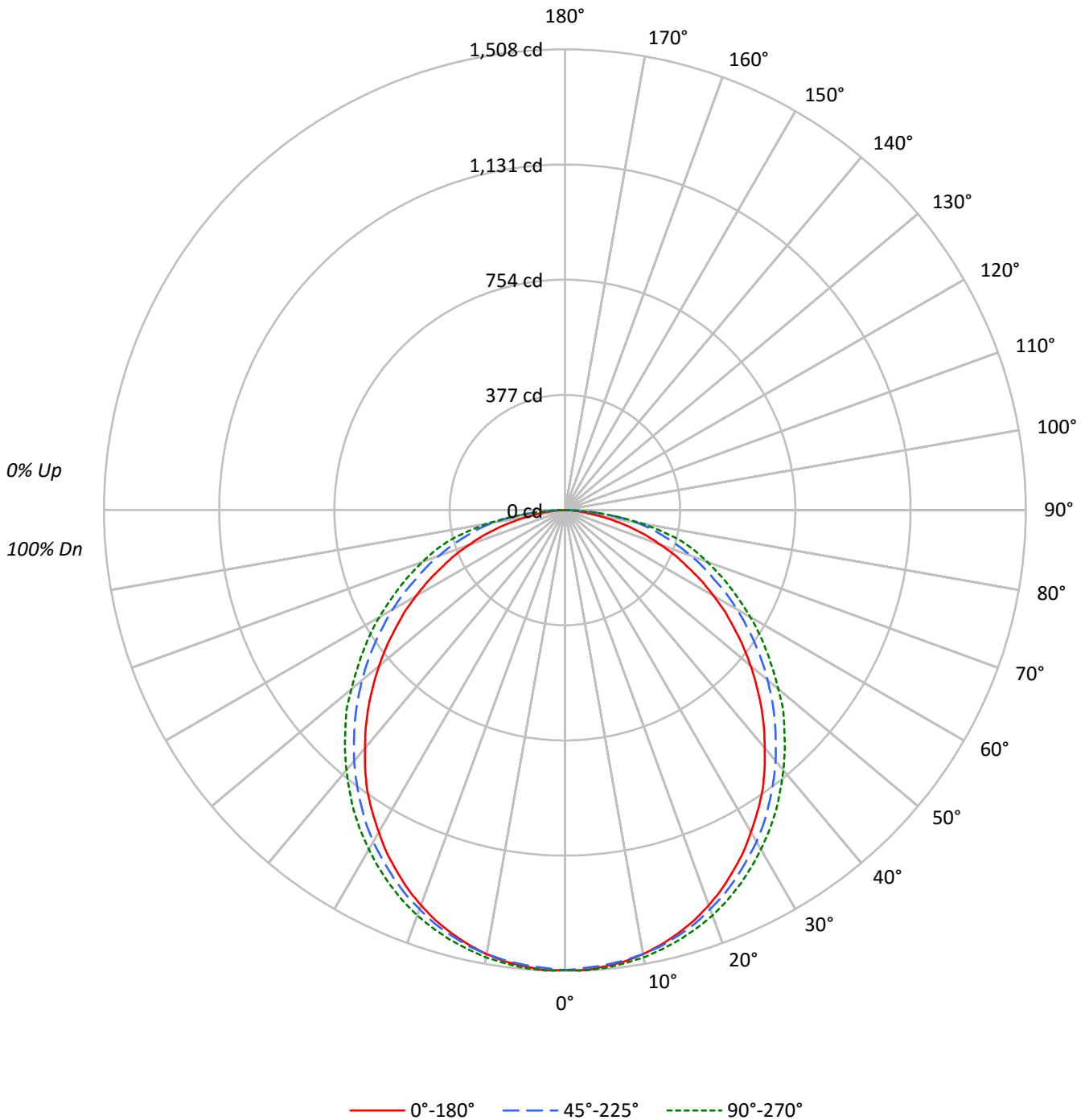
Input Watts (W): 34.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2026	2026	2026
5°	2024	2019	2032
10°	2016	2016	2031
15°	1997	2006	2027
20°	1971	1990	2021
25°	1934	1971	2009
30°	1891	1948	1992
35°	1849	1916	1977
40°	1786	1884	1954
45°	1728	1847	1932
50°	1661	1812	1909
55°	1587	1779	1890
60°	1513	1751	1887
65°	1417	1721	1898
70°	1312	1730	1949
75°	1175	1762	2060
80°	949	1867	2015
85°	715	1639	1598



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.5	3.3
10°-20°	407.3	9.5
20°-30°	612.3	14.3
30°-40°	729.3	17.0
40°-50°	746.4	17.4
50°-60°	672.0	15.7
60°-70°	527.7	12.3
70°-80°	342.5	8.0
80°-90°	105.9	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°	1162.1	27.1
0°-40°	1891.4	44.1
0°-60°	3309.8	77.2
0°-90°	4286.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4286.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1506	1506	1506	1506	1506	
5°	1499	1502	1495	1503	1504	142
15°	1434	1438	1440	1453	1455	404
25°	1303	1314	1327	1349	1353	600
35°	1126	1140	1167	1195	1204	702
45°	908	930	971	1007	1016	700
55°	677	707	758	798	806	607
65°	445	479	540	585	596	443
75°	226	270	339	385	396	239
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°	1505.7	1505.7	1505.7	1505.7	1505.7
2.5°	1507.1	1507.1	1500.3	1507.1	1508.4
5°	1498.9	1501.6	1494.8	1503.0	1504.3
7.5°	1490.7	1490.7	1486.6	1494.8	1496.2
10°	1475.7	1477.1	1475.7	1485.3	1486.6
12.5°	1456.7	1459.4	1460.8	1470.3	1471.7
15°	1433.5	1437.6	1440.4	1452.6	1455.3
17.5°	1407.7	1411.8	1418.6	1432.2	1434.9
20°	1376.4	1381.8	1390.0	1407.7	1411.8
22.5°	1342.3	1347.8	1361.4	1377.7	1384.5
25°	1302.9	1313.7	1327.4	1349.1	1353.2
27.5°	1263.4	1272.9	1290.6	1313.7	1319.2
30°	1217.1	1232.1	1253.8	1277.0	1282.4
32.5°	1172.2	1187.1	1213.0	1237.5	1244.3
35°	1125.9	1139.5	1166.7	1195.3	1203.5
37.5°	1072.8	1090.5	1120.4	1149.0	1157.2
40°	1017.0	1038.7	1072.8	1102.7	1112.3
42.5°	963.9	987.0	1021.0	1053.7	1064.6
45°	908.0	929.8	970.7	1007.4	1015.6
47.5°	850.9	875.4	918.9	955.7	969.3
50°	793.7	819.6	865.8	904.0	912.1
52.5°	736.5	763.7	812.8	853.6	857.7
55°	676.6	706.6	758.3	797.8	805.9
57.5°	622.2	648.0	703.8	744.7	754.2
60°	562.3	590.8	650.7	688.9	701.1
62.5°	505.1	535.0	597.7	635.8	646.7
65°	445.2	479.2	540.5	585.4	596.3
67.5°	393.4	426.1	491.5	535.0	545.9
70°	333.5	370.3	439.7	484.7	495.5
72.5°	281.8	319.9	389.4	432.9	449.3
75°	226.0	269.6	339.0	385.3	396.2
77.5°	171.5	221.9	292.7	328.1	328.1
80°	122.5	175.6	241.0	257.3	260.0
82.5°	80.3	132.1	178.3	177.0	177.0
85°	46.3	85.8	106.2	103.5	103.5
87.5°	17.7	35.4	38.1	38.1	36.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)