

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: P311456

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-S-CP125-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: P311456
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-CP125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" 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: 4202.0 lumens
Efficiency: N/A
Efficacy: 122.9 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

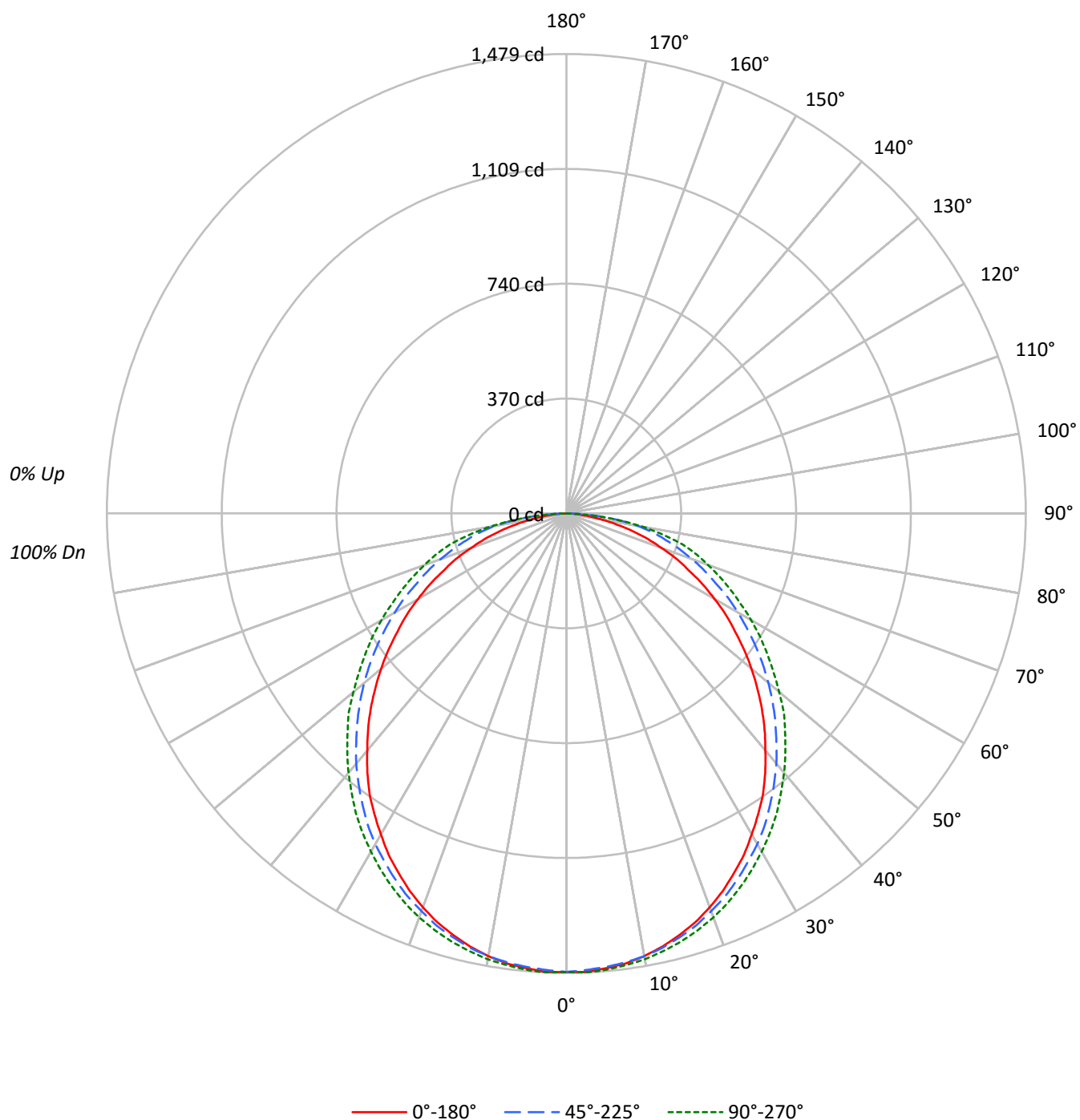
Input Watts (W): 34.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1986	1986	1986
5°	1985	1979	1992
10°	1977	1977	1991
15°	1958	1967	1987
20°	1932	1951	1982
25°	1896	1932	1970
30°	1854	1910	1953
35°	1813	1879	1938
40°	1751	1847	1915
45°	1694	1811	1895
50°	1629	1777	1872
55°	1556	1744	1853
60°	1483	1717	1850
65°	1390	1687	1861
70°	1286	1696	1911
75°	1152	1727	2019
80°	931	1830	1975
85°	701	1607	1565



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.8	3.3
10°-20°	399.3	9.5
20°-30°	600.3	14.3
30°-40°	715.0	17.0
40°-50°	731.8	17.4
50°-60°	658.8	15.7
60°-70°	517.4	12.3
70°-80°	335.8	8.0
80°-90°	103.9	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°	1139.3	27.1
0°-40°	1854.4	44.1
0°-60°	3245.0	77.2
0°-90°	4202.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4202.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1476	1476	1476	1476	1476	
5°	1470	1472	1466	1474	1475	140
15°	1406	1410	1412	1424	1427	396
25°	1277	1288	1301	1323	1327	588
35°	1104	1117	1144	1172	1180	689
45°	890	912	952	988	996	686
55°	663	693	743	782	790	595
65°	436	470	530	574	585	434
75°	222	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°	1476.2	1476.2	1476.2	1476.2	1476.2
2.5°	1477.5	1477.5	1470.9	1477.5	1478.9
5°	1469.5	1472.2	1465.5	1473.5	1474.9
7.5°	1461.5	1461.5	1457.5	1465.5	1466.8
10°	1446.8	1448.2	1446.8	1456.2	1457.5
12.5°	1428.1	1430.8	1432.1	1441.5	1442.8
15°	1405.5	1409.5	1412.1	1424.1	1426.8
17.5°	1380.1	1384.1	1390.8	1404.1	1406.8
20°	1349.4	1354.7	1362.7	1380.1	1384.1
22.5°	1316.0	1321.4	1334.7	1350.7	1357.4
25°	1277.3	1288.0	1301.3	1322.7	1326.7
27.5°	1238.6	1248.0	1265.3	1288.0	1293.3
30°	1193.2	1207.9	1229.3	1252.0	1257.3
32.5°	1149.2	1163.9	1189.2	1213.3	1219.9
35°	1103.8	1117.2	1143.8	1171.9	1179.9
37.5°	1051.8	1069.1	1098.5	1126.5	1134.5
40°	997.0	1018.4	1051.8	1081.1	1090.5
42.5°	945.0	967.7	1001.0	1033.1	1043.7
45°	890.3	911.6	951.6	987.7	995.7
47.5°	834.2	858.2	900.9	937.0	950.3
50°	778.1	803.5	848.9	886.2	894.3
52.5°	722.1	748.8	796.8	836.9	840.9
55°	663.4	692.7	743.4	782.1	790.1
57.5°	610.0	635.3	690.0	730.1	739.4
60°	551.2	579.3	638.0	675.4	687.4
62.5°	495.2	524.5	585.9	623.3	634.0
65°	436.5	469.8	529.9	573.9	584.6
67.5°	385.7	417.8	481.8	524.5	535.2
70°	327.0	363.0	431.1	475.2	485.8
72.5°	276.3	313.7	381.7	424.4	440.5
75°	221.6	264.3	332.3	377.7	388.4
77.5°	168.2	217.6	287.0	321.7	321.7
80°	120.1	172.2	236.2	252.3	254.9
82.5°	78.7	129.5	174.8	173.5	173.5
85°	45.4	84.1	104.1	101.4	101.4
87.5°	17.4	34.7	37.4	37.4	36.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)