

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: P311468

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-S-CP187-W2A-U-5500K**

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: P311468
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-CP187-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5500K 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: 4193.0 lumens
Efficiency: N/A
Efficacy: 120.8 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

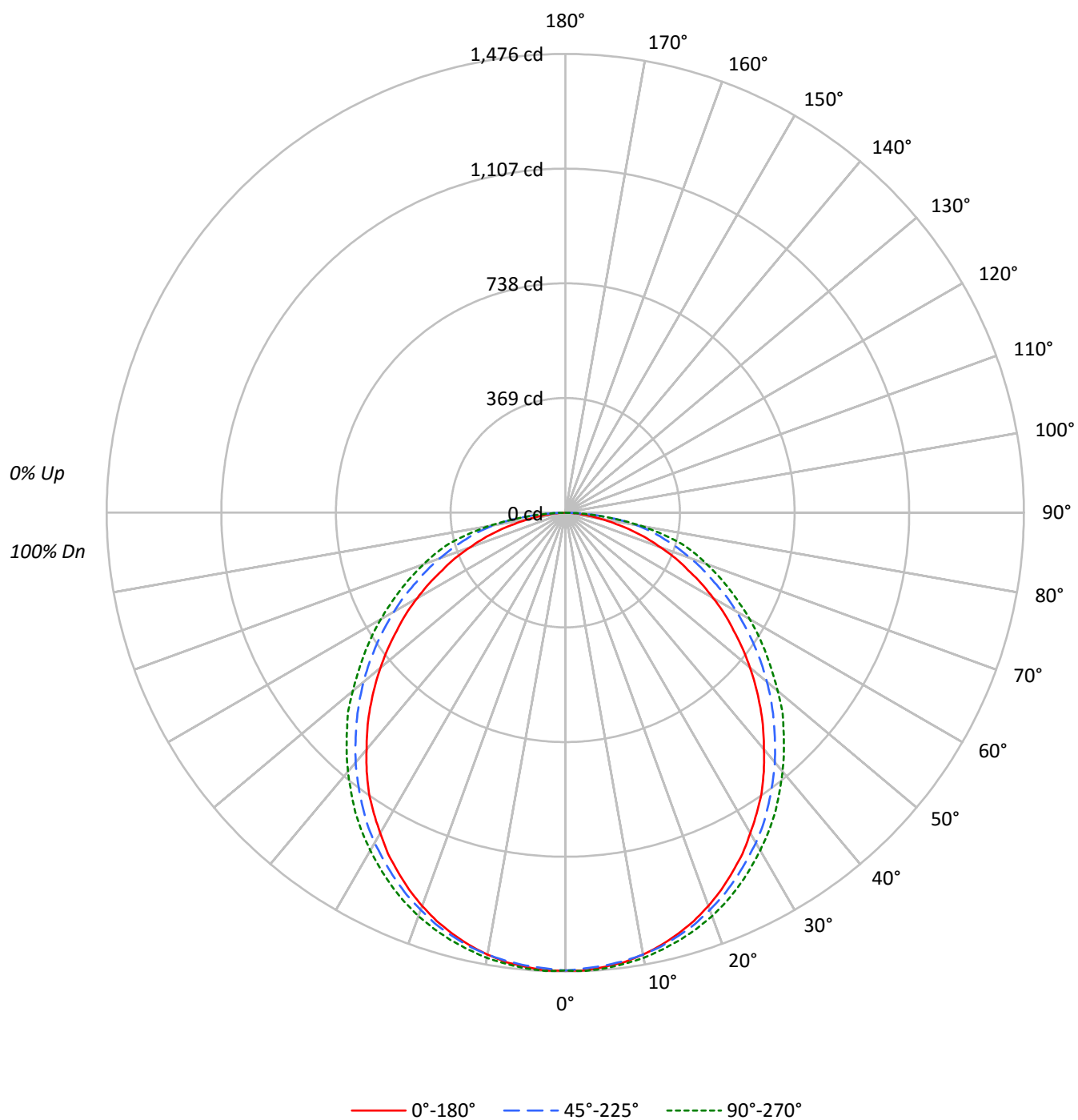
Input Watts (W): 34.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1982	1982	1982
5°	1981	1975	1988
10°	1972	1972	1987
15°	1953	1963	1983
20°	1928	1947	1978
25°	1892	1928	1965
30°	1850	1906	1949
35°	1809	1875	1934
40°	1747	1843	1911
45°	1690	1807	1891
50°	1625	1773	1868
55°	1553	1740	1850
60°	1480	1713	1846
65°	1387	1683	1857
70°	1284	1692	1907
75°	1149	1724	2015
80°	929	1826	1971
85°	699	1604	1562



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.5	3.3
10°-20°	398.5	9.5
20°-30°	599.0	14.3
30°-40°	713.5	17.0
40°-50°	730.2	17.4
50°-60°	657.4	15.7
60°-70°	516.3	12.3
70°-80°	335.1	8.0
80°-90°	103.6	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°	1136.9	27.1
0°-40°	1850.4	44.1
0°-60°	3238.0	77.2
0°-90°	4193.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4193.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1473	1473	1473	1473	1473	
5°	1466	1469	1462	1470	1472	139
15°	1402	1406	1409	1421	1424	395
25°	1275	1285	1299	1320	1324	587
35°	1101	1115	1141	1169	1177	687
45°	888	910	950	986	994	685
55°	662	691	742	780	788	593
65°	436	469	529	573	583	434
75°	221	264	332	377	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°	1473.0	1473.0	1473.0	1473.0	1473.0
2.5°	1474.4	1474.4	1467.7	1474.4	1475.7
5°	1466.4	1469.0	1462.4	1470.4	1471.7
7.5°	1458.4	1458.4	1454.4	1462.4	1463.7
10°	1443.7	1445.1	1443.7	1453.1	1454.4
12.5°	1425.1	1427.7	1429.1	1438.4	1439.7
15°	1402.4	1406.4	1409.1	1421.1	1423.7
17.5°	1377.1	1381.1	1387.8	1401.1	1403.8
20°	1346.5	1351.8	1359.8	1377.1	1381.1
22.5°	1313.2	1318.5	1331.9	1347.8	1354.5
25°	1274.6	1285.2	1298.6	1319.9	1323.9
27.5°	1236.0	1245.3	1262.6	1285.2	1290.6
30°	1190.7	1205.3	1226.6	1249.3	1254.6
32.5°	1146.7	1161.4	1186.7	1210.7	1217.3
35°	1101.4	1114.8	1141.4	1169.4	1177.4
37.5°	1049.5	1066.8	1096.1	1124.1	1132.1
40°	994.9	1016.2	1049.5	1078.8	1088.1
42.5°	943.0	965.6	998.9	1030.9	1041.5
45°	888.3	909.7	949.6	985.6	993.6
47.5°	832.4	856.4	899.0	935.0	948.3
50°	776.5	801.8	847.1	884.3	892.3
52.5°	720.5	747.2	795.1	835.1	839.1
55°	661.9	691.2	741.8	780.5	788.5
57.5°	608.7	634.0	688.6	728.5	737.8
60°	550.1	578.0	636.6	673.9	685.9
62.5°	494.1	523.4	584.7	622.0	632.6
65°	435.5	468.8	528.7	572.7	583.4
67.5°	384.9	416.9	480.8	523.4	534.1
70°	326.3	362.3	430.2	474.1	484.8
72.5°	275.7	313.0	380.9	423.5	439.5
75°	221.1	263.7	331.6	376.9	387.6
77.5°	167.8	217.1	286.3	321.0	321.0
80°	119.9	171.8	235.7	251.7	254.4
82.5°	78.6	129.2	174.5	173.1	173.1
85°	45.3	83.9	103.9	101.2	101.2
87.5°	17.3	34.6	37.3	37.3	36.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)