

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: P310840

Luminaire Tested: **24FCZ2-45-UNV-L82765-CP187-W2A-U-6500K**

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: P310840
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-45-UNV-L82765-CP187-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 6500K 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: 4053.0 lumens
Efficiency: N/A
Efficacy: 103.1 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

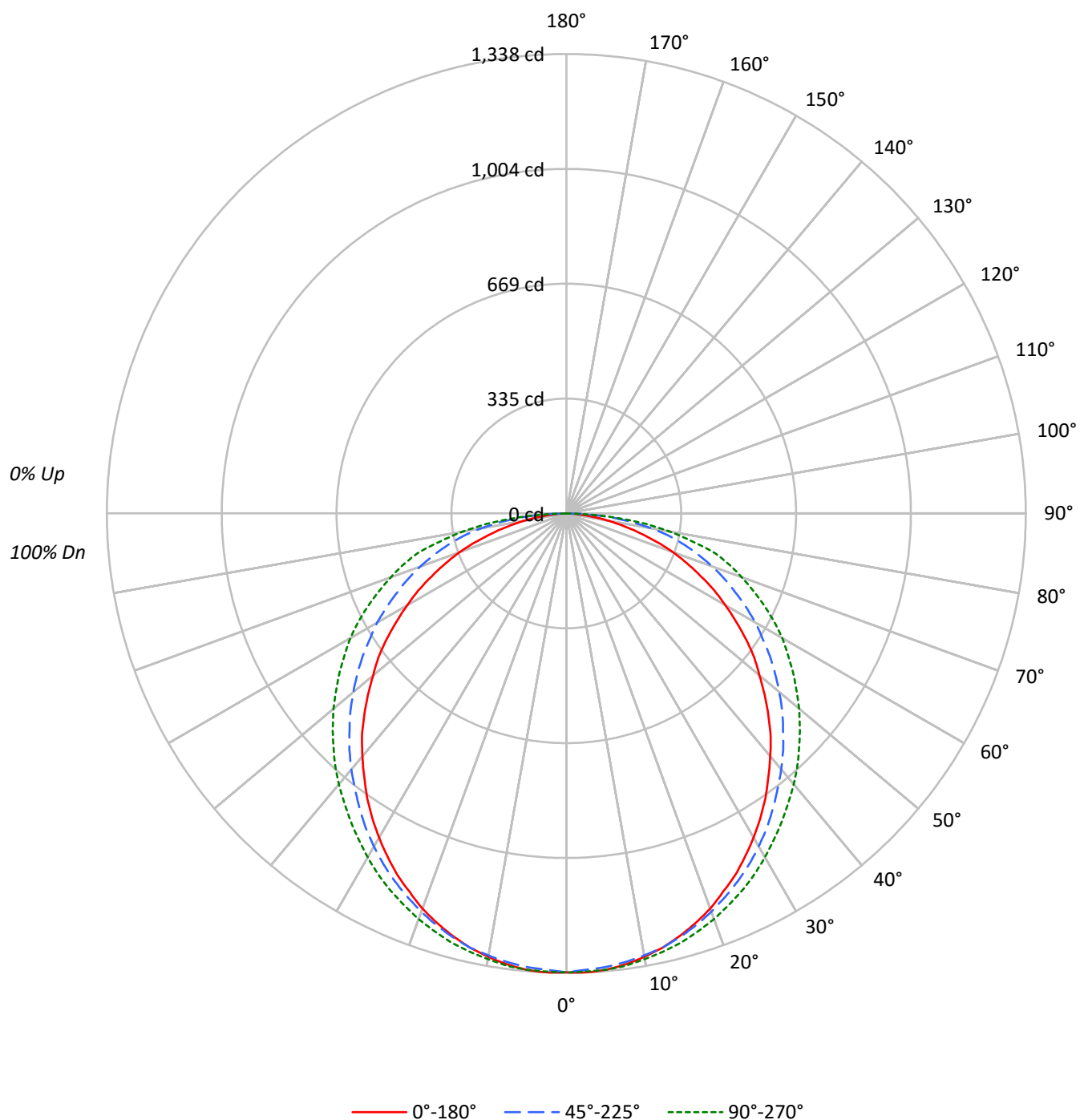
Input Watts (W): 39.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1798	1798	1798
5°	1802	1791	1802
10°	1791	1786	1800
15°	1776	1779	1802
20°	1754	1767	1800
25°	1727	1755	1799
30°	1694	1740	1797
35°	1661	1723	1798
40°	1623	1710	1809
45°	1584	1699	1824
50°	1537	1694	1852
55°	1498	1697	1890
60°	1440	1711	1954
65°	1374	1730	2025
70°	1301	1783	2137
75°	1160	1860	2335
80°	989	1970	2386
85°	706	1951	2283



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.5	3.1
10°-20°	361.7	8.9
20°-30°	546.3	13.5
30°-40°	658.4	16.2
40°-50°	691.2	17.1
50°-60°	646.7	16.0
60°-70°	534.1	13.2
70°-80°	363.9	9.0
80°-90°	124.1	3.1
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°	1034.5	25.5
0°-40°	1693.0	41.8
0°-60°	3030.9	74.8
0°-90°	4053.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4053.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1337	1337	1337	1337	1337	
5°	1334	1333	1326	1334	1334	127
15°	1275	1276	1278	1291	1294	359
25°	1163	1169	1182	1205	1212	535
35°	1011	1022	1049	1084	1095	632
45°	832	850	893	941	959	642
55°	639	664	724	783	806	570
65°	432	468	543	612	636	428
75°	223	274	358	425	449	238
85°	46	90	126	142	148	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1336.6	1336.6	1336.6	1336.6	1336.6
2.5°	1338.0	1336.6	1329.9	1336.6	1335.3
5°	1334.0	1332.6	1325.9	1334.0	1334.0
7.5°	1324.5	1324.5	1317.8	1327.2	1328.6
10°	1311.1	1311.1	1307.1	1317.8	1317.8
12.5°	1295.0	1295.0	1295.0	1305.7	1307.1
15°	1274.8	1276.1	1277.5	1290.9	1293.6
17.5°	1250.6	1253.3	1257.3	1273.4	1276.1
20°	1225.0	1227.7	1234.4	1253.3	1257.3
22.5°	1192.8	1199.5	1208.9	1230.4	1234.4
25°	1163.2	1168.6	1182.0	1204.9	1211.6
27.5°	1126.9	1134.9	1152.4	1176.6	1186.0
30°	1090.6	1098.6	1120.1	1148.4	1156.5
32.5°	1051.6	1063.7	1086.5	1116.1	1125.5
35°	1011.2	1022.0	1048.9	1083.8	1094.6
37.5°	966.8	981.6	1011.2	1048.9	1062.3
40°	923.8	940.0	973.6	1013.9	1030.0
42.5°	880.8	896.9	934.6	980.3	996.4
45°	832.4	849.9	892.9	941.3	958.8
47.5°	784.0	805.5	852.5	903.6	922.5
50°	734.2	758.4	809.5	863.3	884.8
52.5°	689.8	712.7	766.5	824.3	844.5
55°	638.7	664.3	723.5	782.6	805.5
57.5°	586.3	614.5	677.7	742.3	765.1
60°	535.2	566.1	636.0	700.6	726.1
62.5°	485.4	516.4	589.0	656.2	681.8
65°	431.7	468.0	543.3	611.8	636.0
67.5°	380.6	419.6	498.9	566.1	590.3
70°	330.8	368.5	453.2	519.1	543.3
72.5°	277.0	320.0	404.8	473.3	498.9
75°	223.2	274.3	357.7	424.9	449.1
77.5°	173.5	225.9	309.3	364.4	376.5
80°	127.7	181.5	254.2	293.1	307.9
82.5°	82.0	135.8	193.6	221.9	234.0
85°	45.7	90.1	126.4	142.5	147.9
87.5°	18.8	39.0	51.1	57.8	57.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)