

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: P310883

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-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: P310883
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: 24FCZ2-50HE-UNV-L82765-CP187-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, RIBBED 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: 4471.0 lumens
Efficiency: N/A
Efficacy: 113.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

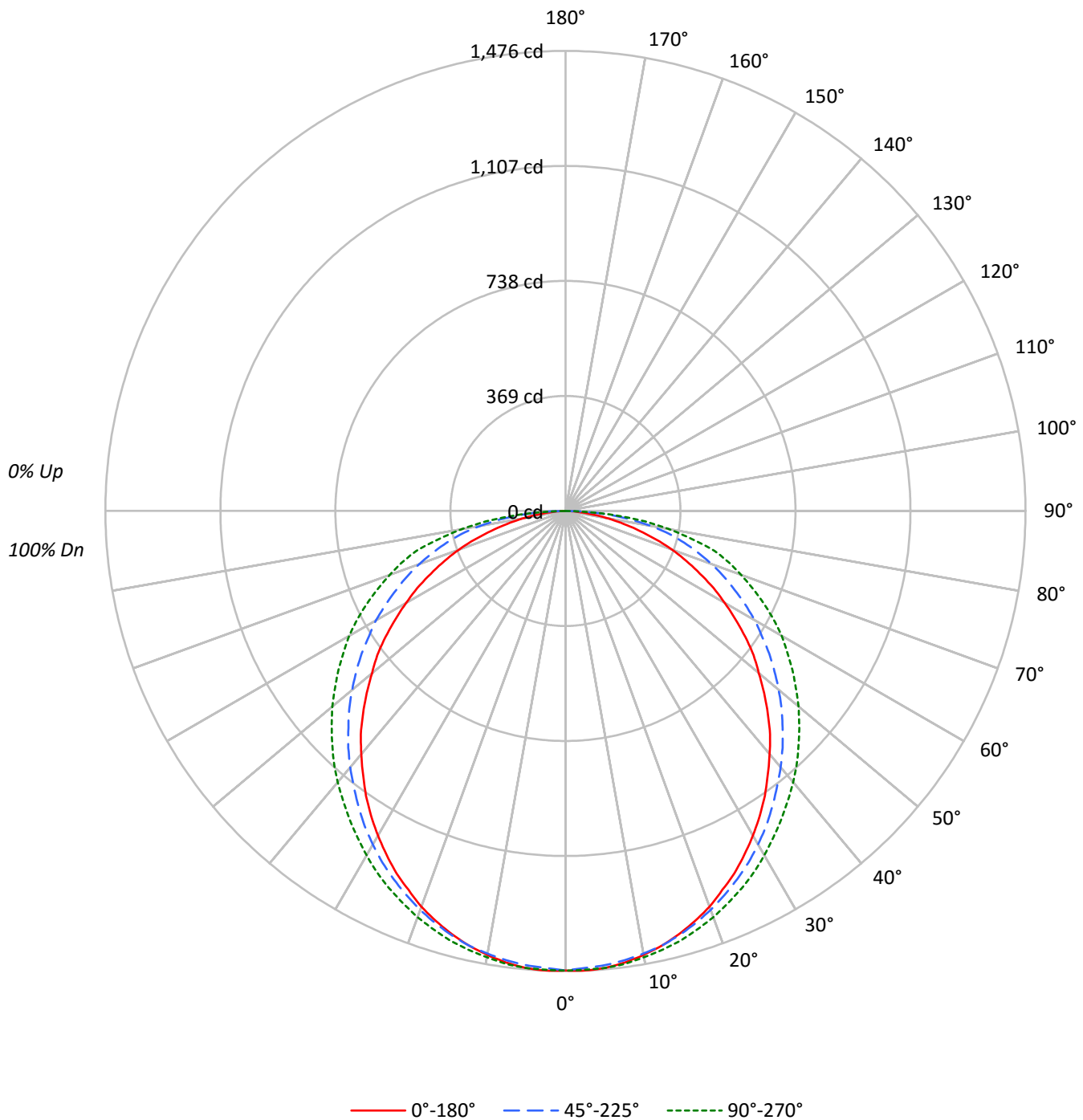
Input Watts (W): 39.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1984	1984	1984
5°	1987	1975	1987
10°	1976	1970	1986
15°	1959	1963	1988
20°	1935	1950	1986
25°	1905	1936	1984
30°	1869	1920	1982
35°	1832	1900	1983
40°	1790	1886	1996
45°	1747	1874	2013
50°	1695	1869	2043
55°	1653	1872	2084
60°	1589	1888	2155
65°	1516	1908	2234
70°	1435	1967	2358
75°	1280	2051	2576
80°	1092	2173	2632
85°	778	2152	2519



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.5	3.1
10°-20°	399.0	8.9
20°-30°	602.7	13.5
30°-40°	726.3	16.2
40°-50°	762.5	17.1
50°-60°	713.4	16.0
60°-70°	589.1	13.2
70°-80°	401.5	9.0
80°-90°	136.9	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°	1141.2	25.5
0°-40°	1867.6	41.8
0°-60°	3343.5	74.8
0°-90°	4471.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4471.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1474	1474	1474	1474	1474	
5°	1472	1470	1463	1472	1472	140
15°	1406	1408	1409	1424	1427	396
25°	1283	1289	1304	1329	1336	590
35°	1116	1127	1157	1196	1208	697
45°	918	938	985	1038	1058	708
55°	705	733	798	863	889	629
65°	476	516	599	675	702	472
75°	246	303	395	469	496	263
85°	50	99	139	157	163	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1474.5	1474.5	1474.5	1474.5	1474.5
2.5°	1476.0	1474.5	1467.1	1474.5	1473.0
5°	1471.5	1470.0	1462.6	1471.5	1471.5
7.5°	1461.1	1461.1	1453.7	1464.1	1465.6
10°	1446.3	1446.3	1441.9	1453.7	1453.7
12.5°	1428.5	1428.5	1428.5	1440.4	1441.9
15°	1406.3	1407.7	1409.2	1424.1	1427.0
17.5°	1379.6	1382.5	1387.0	1404.8	1407.7
20°	1351.4	1354.3	1361.8	1382.5	1387.0
22.5°	1315.8	1323.2	1333.6	1357.3	1361.8
25°	1283.1	1289.1	1303.9	1329.1	1336.5
27.5°	1243.1	1252.0	1271.3	1298.0	1308.4
30°	1203.0	1211.9	1235.7	1266.8	1275.7
32.5°	1160.0	1173.4	1198.6	1231.2	1241.6
35°	1115.5	1127.4	1157.0	1195.6	1207.5
37.5°	1066.6	1082.9	1115.5	1157.0	1171.9
40°	1019.1	1036.9	1074.0	1118.5	1136.3
42.5°	971.6	989.4	1031.0	1081.4	1099.2
45°	918.2	937.5	985.0	1038.4	1057.7
47.5°	864.8	888.6	940.5	996.8	1017.6
50°	809.9	836.6	893.0	952.3	976.1
52.5°	761.0	786.2	845.5	909.3	931.6
55°	704.6	732.8	798.1	863.3	888.6
57.5°	646.8	677.9	747.6	818.8	844.1
60°	590.4	624.5	701.6	772.8	801.0
62.5°	535.5	569.6	649.7	723.9	752.1
65°	476.2	516.2	599.3	674.9	701.6
67.5°	419.8	462.8	550.3	624.5	651.2
70°	364.9	406.5	499.9	572.6	599.3
72.5°	305.6	353.0	446.5	522.2	550.3
75°	246.2	302.6	394.6	468.8	495.5
77.5°	191.4	249.2	341.2	402.0	415.4
80°	140.9	200.3	280.4	323.4	339.7
82.5°	90.5	149.8	213.6	244.8	258.1
85°	50.4	99.4	139.4	157.2	163.2
87.5°	20.8	43.0	56.4	63.8	63.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)