

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: P310713

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-CP250-W2A-U-5700K**

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: P310713
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: 24FCZ2-40HE-UNV-L82765-CP250-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 5700K 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: 3603.0 lumens
Efficiency: N/A
Efficacy: 115.1 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

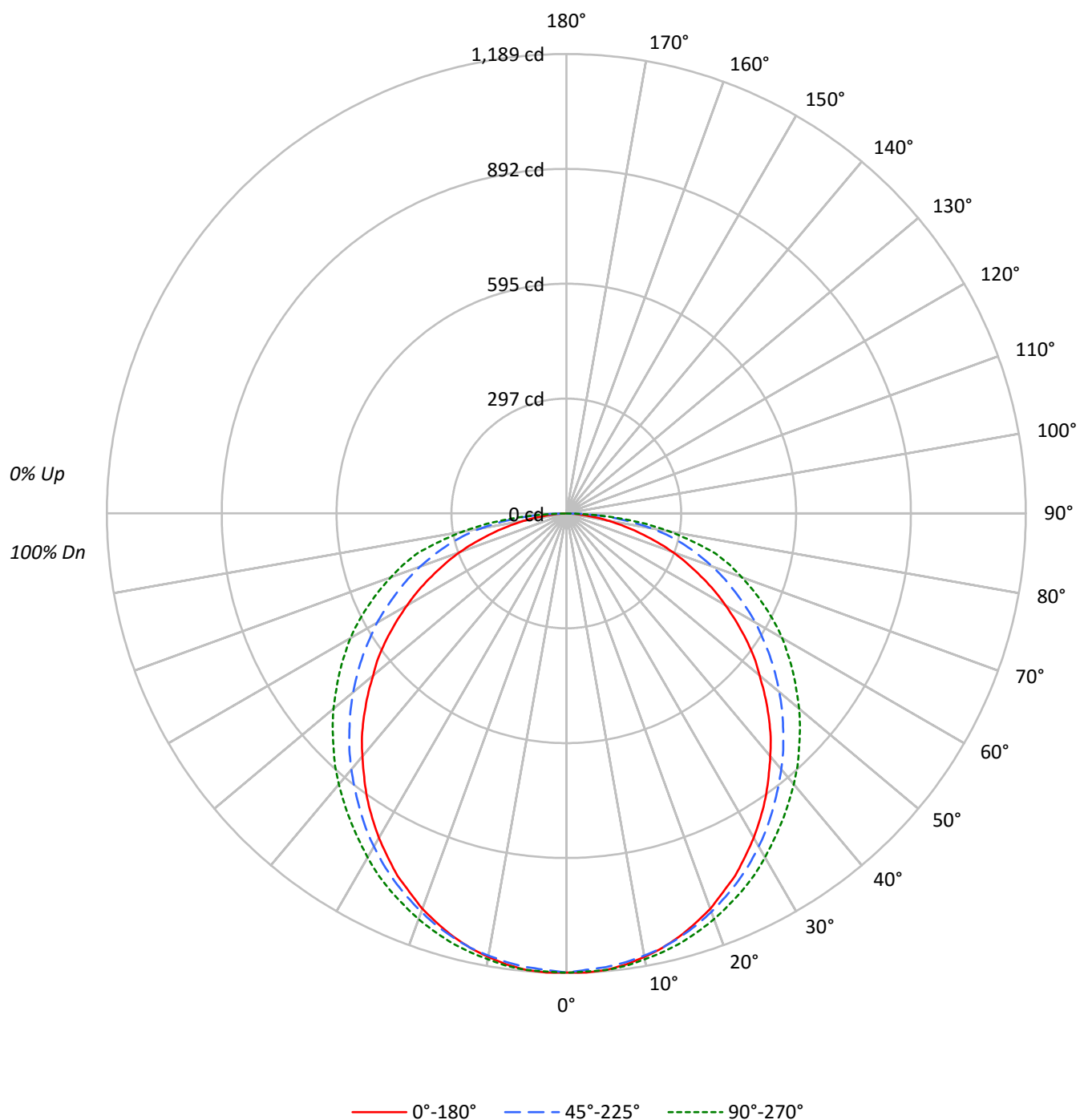
Input Watts (W): 31.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1599	1599	1599
5°	1602	1592	1602
10°	1592	1587	1601
15°	1578	1582	1602
20°	1559	1571	1600
25°	1535	1560	1599
30°	1506	1547	1597
35°	1476	1532	1598
40°	1442	1520	1608
45°	1408	1510	1622
50°	1366	1506	1647
55°	1332	1509	1680
60°	1280	1521	1737
65°	1222	1537	1800
70°	1157	1585	1900
75°	1031	1653	2076
80°	880	1750	2121
85°	627	1735	2030



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.5	3.1
10°-20°	321.5	8.9
20°-30°	485.7	13.5
30°-40°	585.3	16.2
40°-50°	614.5	17.1
50°-60°	574.9	16.0
60°-70°	474.8	13.2
70°-80°	323.5	9.0
80°-90°	110.3	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°	919.7	25.5
0°-40°	1505.0	41.8
0°-60°	2694.4	74.8
0°-90°	3603.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3603.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1188	1188	1188	1188	1188	
5°	1186	1185	1179	1186	1186	113
15°	1133	1134	1136	1148	1150	319
25°	1034	1039	1051	1071	1077	476
35°	899	908	932	964	973	562
45°	740	756	794	837	852	571
55°	568	590	643	696	716	507
65°	384	416	483	544	565	381
75°	198	244	318	378	399	212
85°	41	80	112	127	132	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1188.2	1188.2	1188.2	1188.2	1188.2
2.5°	1189.4	1188.2	1182.3	1188.2	1187.0
5°	1185.8	1184.7	1178.7	1185.8	1185.8
7.5°	1177.5	1177.5	1171.5	1179.9	1181.1
10°	1165.5	1165.5	1161.9	1171.5	1171.5
12.5°	1151.2	1151.2	1151.2	1160.7	1161.9
15°	1133.2	1134.4	1135.6	1147.6	1150.0
17.5°	1111.7	1114.1	1117.7	1132.1	1134.4
20°	1089.0	1091.4	1097.4	1114.1	1117.7
22.5°	1060.3	1066.3	1074.7	1093.8	1097.4
25°	1034.0	1038.8	1050.8	1071.1	1077.1
27.5°	1001.8	1008.9	1024.5	1046.0	1054.4
30°	969.5	976.7	995.8	1020.9	1028.1
32.5°	934.8	945.6	965.9	992.2	1000.6
35°	898.9	908.5	932.4	963.5	973.1
37.5°	859.5	872.6	898.9	932.4	944.4
40°	821.2	835.6	865.5	901.3	915.7
42.5°	783.0	797.3	830.8	871.5	885.8
45°	740.0	755.5	793.8	836.8	852.3
47.5°	696.9	716.1	757.9	803.3	820.1
50°	652.7	674.2	719.6	767.5	786.6
52.5°	613.2	633.6	681.4	732.8	750.7
55°	567.8	590.5	643.1	695.7	716.1
57.5°	521.2	546.3	602.5	659.9	680.2
60°	475.8	503.3	565.4	622.8	645.5
62.5°	431.5	459.0	523.6	583.4	606.1
65°	383.7	416.0	482.9	543.9	565.4
67.5°	338.3	373.0	443.5	503.3	524.8
70°	294.1	327.5	402.9	461.4	482.9
72.5°	246.3	284.5	359.8	420.8	443.5
75°	198.4	243.9	318.0	377.7	399.3
77.5°	154.2	200.8	274.9	324.0	334.7
80°	113.6	161.4	225.9	260.6	273.7
82.5°	72.9	120.7	172.1	197.2	208.0
85°	40.6	80.1	112.4	126.7	131.5
87.5°	16.7	34.7	45.4	51.4	51.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)