

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: P313282

Luminaire Tested: **24FCZ2-50-UNV-L83050-HRP-CP187-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: P313282
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-50-UNV-L83050-HRP-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 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: 3490.0 lumens
Efficiency: N/A
Efficacy: 79.9 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

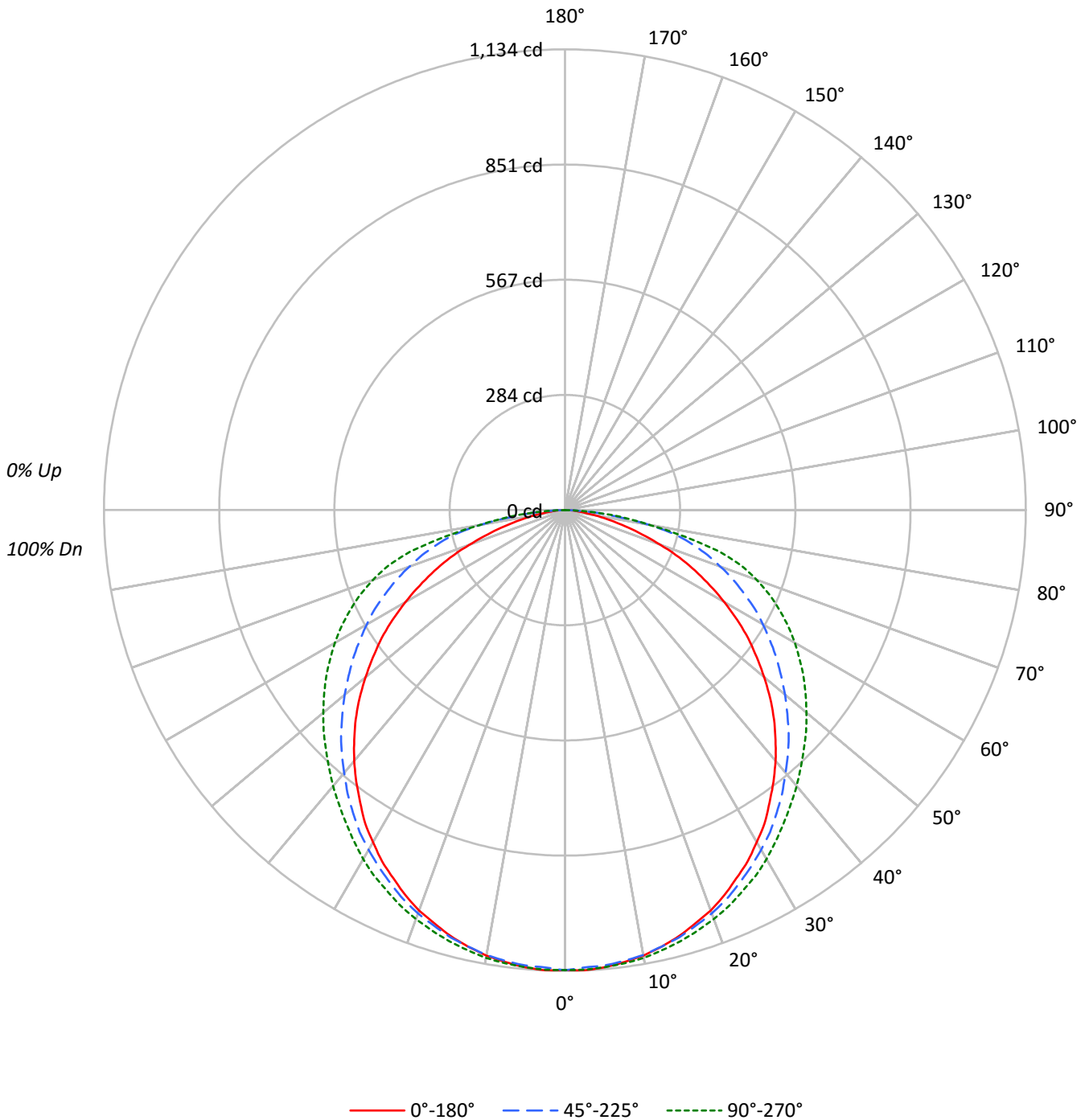
Input Watts (W): 43.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				10	0
RW	70	50	30	10	70	50	30	10	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	102	102	102	100
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1523	1523	1523
5°	1525	1519	1525
10°	1521	1519	1529
15°	1512	1516	1530
20°	1502	1513	1534
25°	1484	1505	1536
30°	1466	1501	1541
35°	1442	1493	1543
40°	1417	1483	1558
45°	1384	1482	1582
50°	1340	1480	1624
55°	1292	1491	1683
60°	1219	1514	1757
65°	1126	1549	1856
70°	983	1603	1977
75°	797	1686	2043
80°	589	1653	1653
85°	451	1218	1376



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.3	3.1
10°-20°	308.0	8.8
20°-30°	468.9	13.4
30°-40°	569.4	16.3
40°-50°	601.6	17.2
50°-60°	567.6	16.3
60°-70°	472.0	13.5
70°-80°	310.5	8.9
80°-90°	84.6	2.4
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°	884.2	25.3
0°-40°	1453.6	41.7
0°-60°	2622.9	75.2
0°-90°	3490.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3490.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1132	1132	1132	1132	1132	
5°	1129	1129	1125	1129	1129	107
15°	1086	1087	1088	1099	1099	306
25°	999	1005	1014	1032	1034	461
35°	878	888	909	932	940	550
45°	728	742	779	817	831	560
55°	551	574	636	696	717	491
65°	354	394	486	558	583	350
75°	153	224	324	384	393	165
85°	29	64	79	88	89	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1132.3	1132.3	1132.3	1132.3	1132.3
2.5°	1133.8	1132.3	1126.5	1132.3	1132.3
5°	1129.4	1129.4	1125.0	1129.4	1129.4
7.5°	1122.1	1122.1	1119.2	1125.0	1125.0
10°	1113.3	1113.3	1111.9	1119.2	1119.2
12.5°	1100.2	1101.7	1100.2	1109.0	1109.0
15°	1085.6	1087.0	1088.5	1098.7	1098.7
17.5°	1066.6	1069.5	1072.4	1084.1	1085.6
20°	1049.1	1050.5	1056.4	1069.5	1071.0
22.5°	1025.7	1030.1	1037.4	1050.5	1054.9
25°	999.4	1005.2	1014.0	1031.5	1034.4
27.5°	974.5	978.9	990.6	1009.6	1015.4
30°	943.9	951.2	965.8	984.8	992.1
32.5°	914.6	921.9	939.5	959.9	965.8
35°	878.1	888.3	908.8	932.2	939.5
37.5°	843.0	853.3	878.1	904.4	913.2
40°	806.5	818.2	844.5	875.2	886.9
42.5°	767.1	783.1	812.4	846.0	859.1
45°	727.6	742.2	778.8	816.7	831.4
47.5°	685.2	702.8	742.2	787.5	805.1
50°	640.0	661.9	707.2	756.8	775.8
52.5°	594.7	619.5	670.6	726.2	746.6
55°	550.8	574.2	635.6	695.5	717.4
57.5°	502.6	531.8	599.0	663.3	685.2
60°	452.9	485.1	562.5	629.7	653.1
62.5°	403.3	439.8	527.4	594.7	619.5
65°	353.6	394.5	486.5	558.1	583.0
67.5°	305.4	350.7	448.6	520.1	545.0
70°	249.8	306.8	407.6	477.8	502.6
72.5°	198.7	264.5	368.2	433.9	455.9
75°	153.4	223.5	324.4	384.3	393.0
77.5°	112.5	182.6	279.1	299.5	301.0
80°	76.0	146.1	213.3	210.4	213.3
82.5°	49.7	109.6	134.4	150.5	152.0
85°	29.2	64.3	78.9	87.7	89.1
87.5°	14.6	21.9	27.8	29.2	32.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)