

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: P313287

Luminaire Tested: **24FCZ2-50-UNV-L83050-HRP-CP250-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: P313287
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-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
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: 3462.0 lumens
Efficiency: N/A
Efficacy: 79.2 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

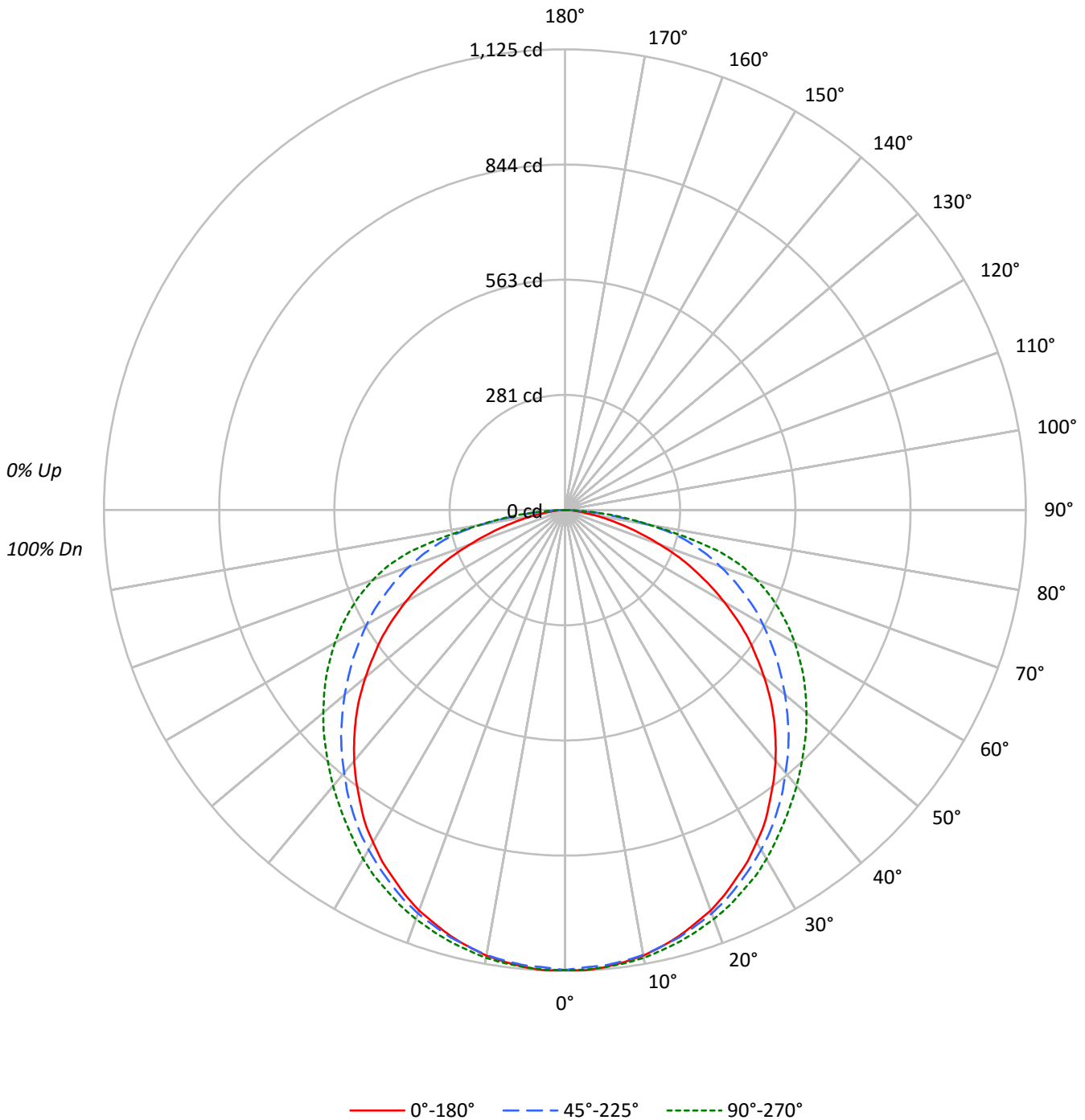
Input Watts (W): 43.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1511	1511	1511
5°	1513	1507	1513
10°	1509	1507	1517
15°	1500	1504	1518
20°	1490	1500	1521
25°	1472	1493	1523
30°	1455	1488	1529
35°	1431	1481	1531
40°	1405	1471	1545
45°	1373	1470	1569
50°	1329	1468	1611
55°	1282	1479	1669
60°	1209	1502	1743
65°	1117	1536	1841
70°	975	1591	1961
75°	791	1673	2027
80°	584	1640	1640
85°	448	1209	1365



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.4	3.1
10°-20°	305.6	8.8
20°-30°	465.2	13.4
30°-40°	564.8	16.3
40°-50°	596.8	17.2
50°-60°	563.1	16.3
60°-70°	468.2	13.5
70°-80°	308.0	8.9
80°-90°	84.0	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°	877.1	25.3
0°-40°	1442.0	41.7
0°-60°	2601.8	75.2
0°-90°	3462.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3462.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1123	1123	1123	1123	1123	
5°	1120	1120	1116	1120	1120	106
15°	1077	1078	1080	1090	1090	304
25°	991	997	1006	1023	1026	457
35°	871	881	902	925	932	545
45°	722	736	772	810	825	556
55°	546	570	630	690	712	487
65°	351	391	483	554	578	347
75°	152	222	322	381	390	164
85°	29	64	78	87	88	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1123.2	1123.2	1123.2	1123.2	1123.2
2.5°	1124.7	1123.2	1117.5	1123.2	1123.2
5°	1120.3	1120.3	1116.0	1120.3	1120.3
7.5°	1113.1	1113.1	1110.2	1116.0	1116.0
10°	1104.4	1104.4	1103.0	1110.2	1110.2
12.5°	1091.4	1092.8	1091.4	1100.1	1100.1
15°	1076.9	1078.3	1079.8	1089.9	1089.9
17.5°	1058.0	1060.9	1063.8	1075.4	1076.9
20°	1040.6	1042.1	1047.9	1060.9	1062.4
22.5°	1017.4	1021.8	1029.0	1042.1	1046.4
25°	991.4	997.2	1005.9	1023.2	1026.1
27.5°	966.7	971.1	982.7	1001.5	1007.3
30°	936.3	943.5	958.0	976.9	984.1
32.5°	907.3	914.5	931.9	952.2	958.0
35°	871.1	881.2	901.5	924.7	931.9
37.5°	836.3	846.4	871.1	897.1	905.8
40°	800.0	811.6	837.7	868.2	879.8
42.5°	760.9	776.9	805.8	839.2	852.2
45°	721.8	736.3	772.5	810.2	824.7
47.5°	679.7	697.1	736.3	781.2	798.6
50°	634.8	656.6	701.5	750.8	769.6
52.5°	589.9	614.5	665.3	720.3	740.6
55°	546.4	569.6	630.5	689.9	711.6
57.5°	498.6	527.6	594.2	658.0	679.7
60°	449.3	481.2	558.0	624.7	647.9
62.5°	400.0	436.3	523.2	589.9	614.5
65°	350.7	391.3	482.6	553.7	578.3
67.5°	302.9	347.8	445.0	516.0	540.6
70°	247.8	304.4	404.4	473.9	498.6
72.5°	197.1	262.3	365.2	430.5	452.2
75°	152.2	221.8	321.8	381.2	389.9
77.5°	111.6	181.2	276.8	297.1	298.6
80°	75.4	144.9	211.6	208.7	211.6
82.5°	49.3	108.7	133.3	149.3	150.7
85°	29.0	63.8	78.3	87.0	88.4
87.5°	14.5	21.7	27.5	29.0	31.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)