

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: P310311

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-RDP-CA08-W2A-U-3000K**

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: P310311
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-60HE-UNV-L82765-RDP-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET
Light Source: (336) 3000K 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: 3502.0 lumens
Efficiency: N/A
Efficacy: 74.0 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

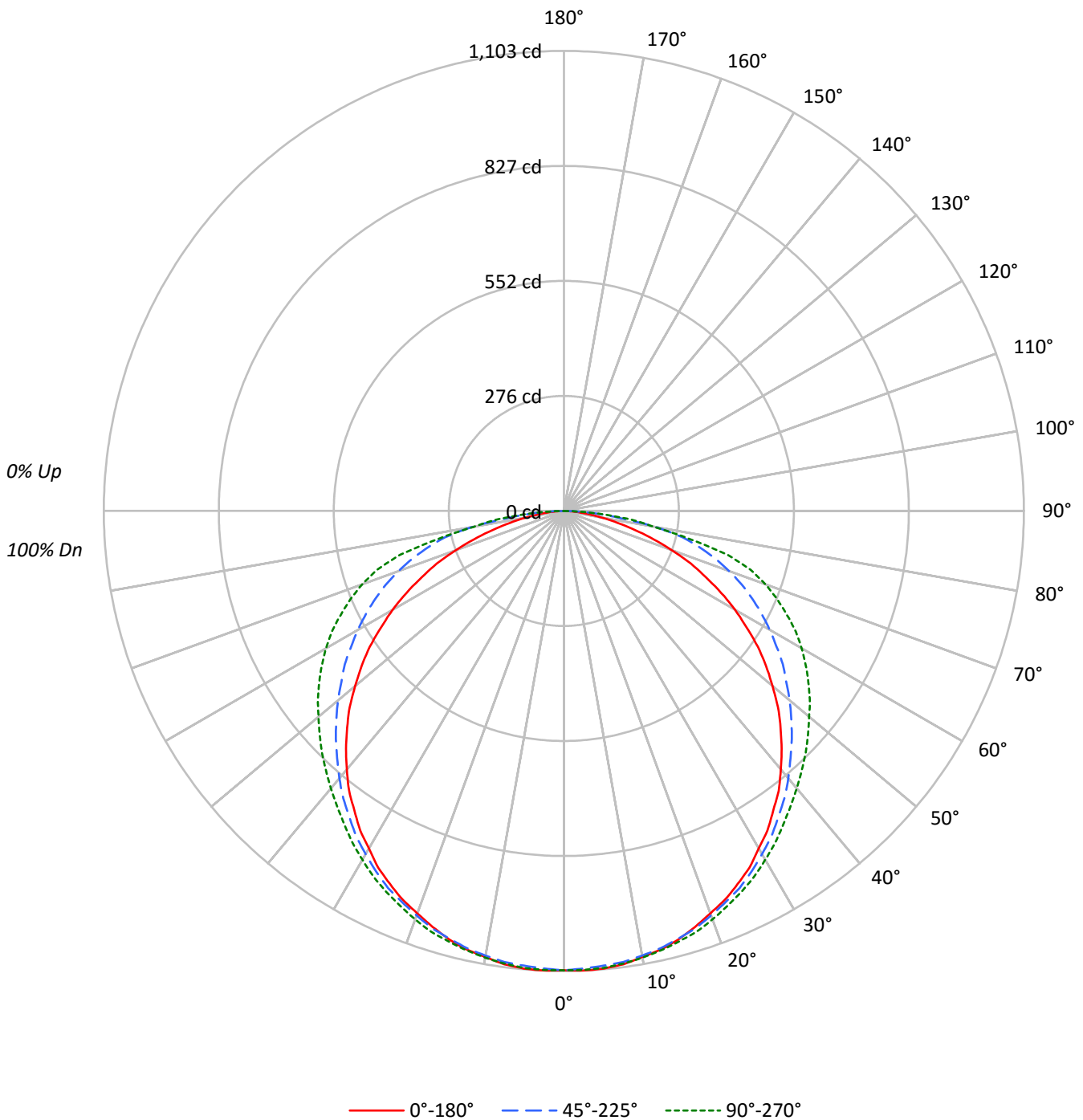
Input Watts (W): 47.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1482	1482	1482
5°	1487	1478	1485
10°	1483	1479	1486
15°	1481	1478	1488
20°	1470	1477	1492
25°	1465	1480	1496
30°	1452	1476	1501
35°	1438	1472	1507
40°	1422	1470	1525
45°	1398	1471	1560
50°	1367	1480	1607
55°	1332	1504	1679
60°	1276	1533	1771
65°	1195	1587	1880
70°	1087	1661	2023
75°	921	1752	2113
80°	727	1764	1709
85°	536	1342	1502



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.5	3.0
10°-20°	300.7	8.6
20°-30°	459.8	13.1
30°-40°	562.0	16.0
40°-50°	599.0	17.1
50°-60°	572.8	16.4
60°-70°	485.2	13.9
70°-80°	326.1	9.3
80°-90°	92.0	2.6
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°	864.9	24.7
0°-40°	1426.9	40.7
0°-60°	2598.7	74.2
0°-90°	3502.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3502.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1101	1101	1101	1101	1101	
5°	1101	1100	1094	1100	1100	105
15°	1063	1063	1061	1070	1068	300
25°	987	990	997	1006	1008	455
35°	876	882	896	914	917	548
45°	735	747	773	806	820	567
55°	568	589	641	691	716	506
65°	375	413	498	564	591	372
75°	177	241	337	394	406	190
85°	35	71	87	94	97	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1101.3	1101.3	1101.3	1101.3	1101.3
2.5°	1103.0	1103.0	1097.8	1101.3	1101.3
5°	1101.3	1099.5	1094.3	1099.5	1099.5
7.5°	1096.1	1094.3	1090.9	1096.1	1094.3
10°	1085.6	1085.6	1082.2	1087.4	1087.4
12.5°	1077.0	1075.2	1073.5	1080.4	1078.7
15°	1063.1	1063.1	1061.3	1070.0	1068.3
17.5°	1045.7	1047.4	1049.2	1056.1	1057.9
20°	1026.6	1030.1	1031.8	1042.2	1042.2
22.5°	1009.2	1011.0	1014.4	1024.8	1024.8
25°	986.6	990.1	997.1	1005.7	1007.5
27.5°	964.1	965.8	974.5	986.6	988.4
30°	934.5	939.7	950.2	964.1	965.8
32.5°	908.5	913.7	925.8	939.7	943.2
35°	875.5	882.4	896.3	913.7	917.2
37.5°	845.9	851.1	868.5	887.6	892.8
40°	809.5	819.9	837.2	859.8	868.5
42.5°	773.0	783.4	804.2	833.8	844.2
45°	734.8	746.9	773.0	806.0	819.9
47.5°	696.6	710.4	740.0	778.2	793.8
50°	653.1	670.5	707.0	750.4	767.8
52.5°	611.4	632.3	672.2	720.9	743.5
55°	568.0	588.9	641.0	691.3	715.7
57.5°	519.4	547.2	604.5	661.8	687.9
60°	474.2	500.3	569.7	632.3	658.3
62.5°	425.6	460.3	535.0	601.0	627.1
65°	375.2	413.4	498.5	564.5	590.6
67.5°	330.0	371.7	462.1	528.1	554.1
70°	276.2	328.3	422.1	488.1	514.2
72.5°	225.8	283.1	380.4	444.7	469.0
75°	177.2	241.4	337.0	394.3	406.5
77.5°	132.0	199.8	291.8	316.1	307.5
80°	93.8	159.8	227.6	215.4	220.6
82.5°	60.8	121.6	140.7	159.8	165.0
85°	34.7	71.2	86.9	93.8	97.3
87.5°	15.6	26.1	34.7	34.7	33.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)