

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: P313219

Luminaire Tested: **24FCZ2-45-UNV-L83050-HRP-CA08-W2A-U-5000K**

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: P313219
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: 24FCZ2-45-UNV-L83050-HRP-CA08-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 5000K 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: 3412.0 lumens
Efficiency: N/A
Efficacy: 86.6 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

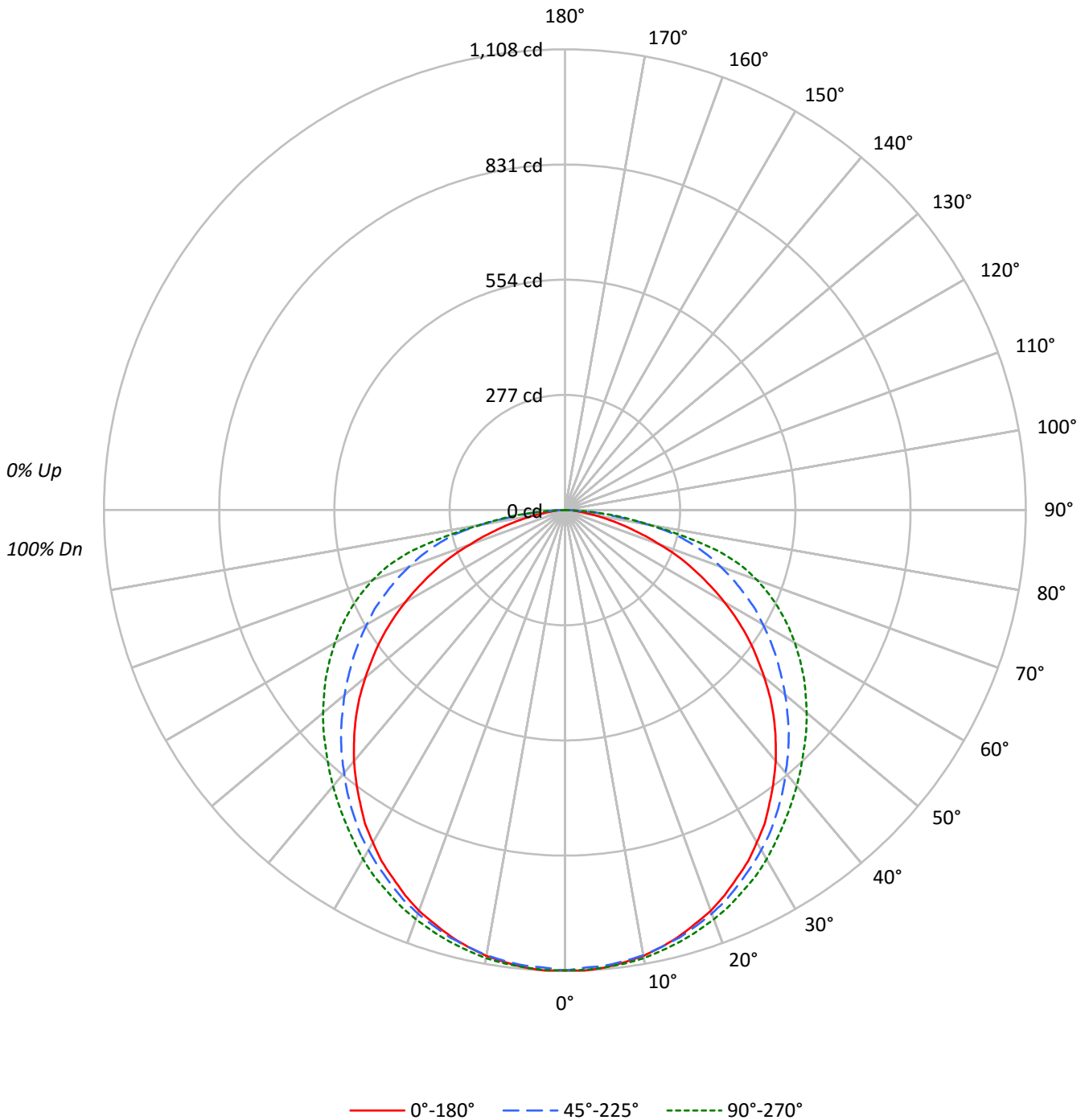
Input Watts (W): 39.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1489	1489	1489
5°	1491	1486	1491
10°	1487	1485	1495
15°	1478	1482	1496
20°	1468	1479	1499
25°	1450	1472	1501
30°	1434	1467	1507
35°	1410	1459	1509
40°	1385	1450	1523
45°	1354	1449	1547
50°	1310	1447	1588
55°	1263	1458	1645
60°	1192	1480	1718
65°	1101	1514	1814
70°	961	1568	1933
75°	780	1648	1997
80°	576	1616	1616
85°	442	1190	1345



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.9	3.1
10°-20°	301.1	8.8
20°-30°	458.5	13.4
30°-40°	556.7	16.3
40°-50°	588.1	17.2
50°-60°	555.0	16.3
60°-70°	461.4	13.5
70°-80°	303.6	8.9
80°-90°	82.7	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°	864.5	25.3
0°-40°	1421.2	41.7
0°-60°	2564.2	75.2
0°-90°	3412.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3412.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1107	1107	1107	1107	1107	
5°	1104	1104	1100	1104	1104	105
15°	1061	1063	1064	1074	1074	299
25°	977	983	991	1008	1011	451
35°	858	868	888	911	918	537
45°	711	726	761	798	813	548
55°	538	561	621	680	701	480
65°	346	386	476	546	570	342
75°	150	218	317	376	384	162
85°	29	63	77	86	87	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1107.0	1107.0	1107.0	1107.0	1107.0
2.5°	1108.5	1107.0	1101.3	1107.0	1107.0
5°	1104.2	1104.2	1099.9	1104.2	1104.2
7.5°	1097.0	1097.0	1094.2	1099.9	1099.9
10°	1088.5	1088.5	1087.0	1094.2	1094.2
12.5°	1075.6	1077.0	1075.6	1084.2	1084.2
15°	1061.3	1062.7	1064.2	1074.2	1074.2
17.5°	1042.7	1045.6	1048.5	1059.9	1061.3
20°	1025.6	1027.0	1032.7	1045.6	1047.0
22.5°	1002.8	1007.0	1014.2	1027.0	1031.3
25°	977.0	982.8	991.3	1008.5	1011.3
27.5°	952.8	957.0	968.5	987.0	992.8
30°	922.8	929.9	944.2	962.8	969.9
32.5°	894.2	901.3	918.5	938.5	944.2
35°	858.5	868.5	888.5	911.3	918.5
37.5°	824.2	834.2	858.5	884.2	892.8
40°	788.5	799.9	825.6	855.6	867.1
42.5°	749.9	765.6	794.2	827.1	839.9
45°	711.4	725.6	761.3	798.5	812.8
47.5°	669.9	687.1	725.6	769.9	787.1
50°	625.6	647.1	691.4	739.9	758.5
52.5°	581.4	605.7	655.6	709.9	729.9
55°	538.5	561.4	621.4	679.9	701.4
57.5°	491.4	519.9	585.7	648.5	669.9
60°	442.8	474.2	549.9	615.6	638.5
62.5°	394.2	430.0	515.7	581.4	605.7
65°	345.7	385.7	475.7	545.7	569.9
67.5°	298.5	342.8	438.5	508.5	532.8
70°	244.3	300.0	398.5	467.1	491.4
72.5°	194.3	258.5	360.0	424.2	445.7
75°	150.0	218.5	317.1	375.7	384.2
77.5°	110.0	178.6	272.8	292.8	294.3
80°	74.3	142.8	208.5	205.7	208.5
82.5°	48.6	107.1	131.4	147.1	148.6
85°	28.6	62.9	77.1	85.7	87.1
87.5°	14.3	21.4	27.1	28.6	31.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)