

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: P314192

Luminaire Tested: **24FCZ2-30-UNV-L83050-S-CA08-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: P314192
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-30-UNV-L83050-S-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC 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: 3059.0 lumens
Efficiency: N/A
Efficacy: 128.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

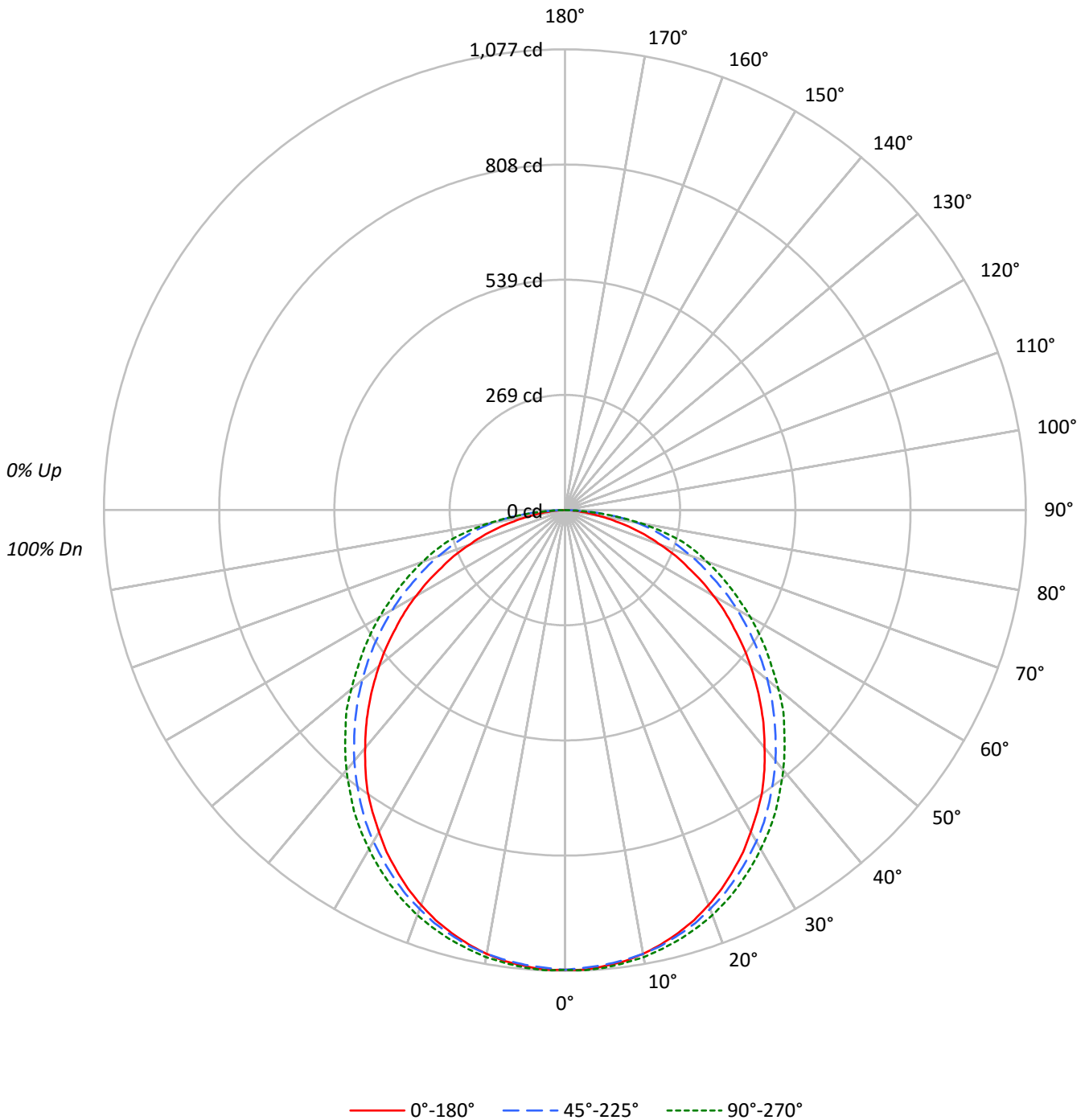
Input Watts (W): 23.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1446	1446	1446
5°	1445	1441	1450
10°	1439	1439	1450
15°	1425	1432	1447
20°	1406	1421	1443
25°	1381	1406	1434
30°	1350	1390	1422
35°	1320	1368	1411
40°	1275	1345	1394
45°	1233	1318	1379
50°	1186	1294	1363
55°	1133	1270	1349
60°	1080	1250	1347
65°	1011	1228	1355
70°	937	1234	1391
75°	839	1258	1470
80°	677	1333	1438
85°	509	1170	1139



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.7	3.3
10°-20°	290.7	9.5
20°-30°	437.0	14.3
30°-40°	520.5	17.0
40°-50°	532.7	17.4
50°-60°	479.6	15.7
60°-70°	376.7	12.3
70°-80°	244.5	8.0
80°-90°	75.6	2.5
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°	829.4	27.1
0°-40°	1350.0	44.1
0°-60°	2362.3	77.2
0°-90°	3059.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3059.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1075	1075	1075	1075	1075	
5°	1070	1072	1067	1073	1074	102
15°	1023	1026	1028	1037	1039	288
25°	930	938	947	963	966	428
35°	804	813	833	853	859	501
45°	648	664	693	719	725	500
55°	483	504	541	569	575	433
65°	318	342	386	418	426	316
75°	161	192	242	275	283	171
85°	33	61	76	74	74	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1074.6	1074.6	1074.6	1074.6	1074.6
2.5°	1075.6	1075.6	1070.8	1075.6	1076.6
5°	1069.8	1071.7	1066.9	1072.7	1073.7
7.5°	1064.0	1064.0	1061.0	1066.9	1067.8
10°	1053.3	1054.2	1053.3	1060.1	1061.0
12.5°	1039.7	1041.6	1042.6	1049.4	1050.4
15°	1023.1	1026.1	1028.0	1036.8	1038.7
17.5°	1004.7	1007.6	1012.5	1022.2	1024.1
20°	982.3	986.2	992.1	1004.7	1007.6
22.5°	958.0	961.9	971.7	983.3	988.2
25°	929.9	937.6	947.4	962.9	965.8
27.5°	901.7	908.5	921.1	937.6	941.5
30°	868.7	879.3	894.9	911.4	915.3
32.5°	836.6	847.3	865.7	883.2	888.1
35°	803.6	813.3	832.7	853.1	858.9
37.5°	765.7	778.3	799.7	820.1	825.9
40°	725.8	741.4	765.7	787.0	793.8
42.5°	687.9	704.4	728.7	752.1	759.8
45°	648.1	663.6	692.8	719.0	724.9
47.5°	607.3	624.8	655.9	682.1	691.8
50°	566.5	584.9	618.0	645.2	651.0
52.5°	525.7	545.1	580.1	609.2	612.1
55°	482.9	504.3	541.2	569.4	575.2
57.5°	444.0	462.5	502.3	531.5	538.3
60°	401.3	421.7	464.4	491.7	500.4
62.5°	360.5	381.9	426.6	453.8	461.5
65°	317.7	342.0	385.7	417.8	425.6
67.5°	280.8	304.1	350.8	381.9	389.6
70°	238.1	264.3	313.8	345.9	353.7
72.5°	201.1	228.3	277.9	309.0	320.6
75°	161.3	192.4	241.9	275.0	282.8
77.5°	122.4	158.4	208.9	234.2	234.2
80°	87.4	125.3	172.0	183.6	185.6
82.5°	57.3	94.3	127.3	126.3	126.3
85°	33.0	61.2	75.8	73.8	73.8
87.5°	12.6	25.3	27.2	27.2	26.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)