

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: P309056

Luminaire Tested: **22FCZ2-39HE-UNV-L82765-S-CA08-W2A-U-5500K**

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: P309056
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-39HE-UNV-L82765-S-CA08-W2A-U-5500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 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: 3890.0 lumens
Efficiency: N/A
Efficacy: 116.8 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

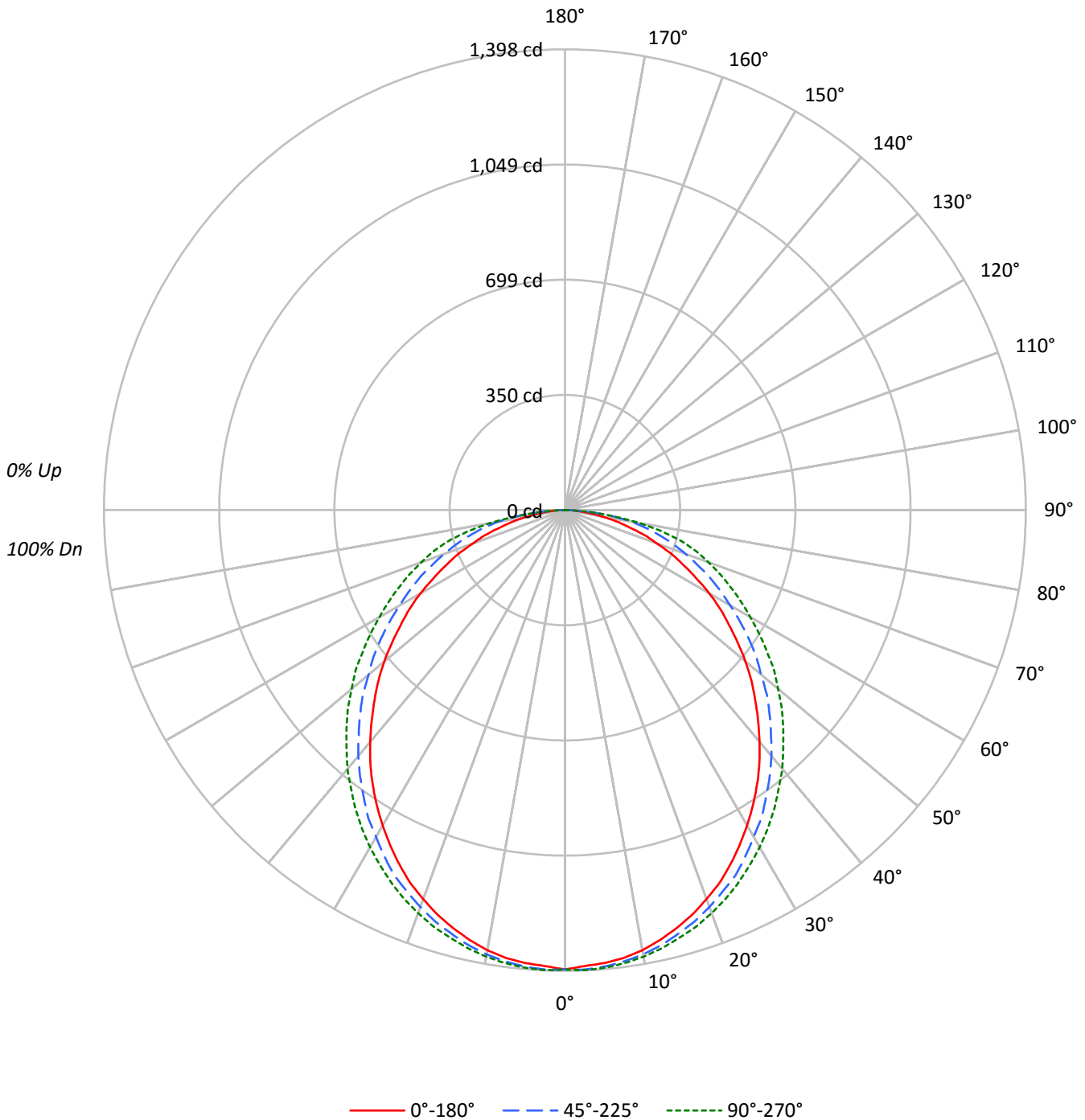
Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3751	3751	3751
5°	3726	3756	3765
10°	3705	3739	3759
15°	3656	3706	3742
20°	3597	3670	3727
25°	3524	3632	3702
30°	3434	3559	3672
35°	3339	3494	3637
40°	3226	3424	3602
45°	3108	3343	3564
50°	2994	3252	3533
55°	2852	3193	3508
60°	2725	3116	3497
65°	2543	3097	3536
70°	2342	3070	3641
75°	2114	3114	3830
80°	1829	3206	3600
85°	1513	2689	2689



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.8	3.4
10°-20°	375.1	9.6
20°-30°	561.3	14.4
30°-40°	664.7	17.1
40°-50°	677.4	17.4
50°-60°	607.2	15.6
60°-70°	475.4	12.2
70°-80°	306.5	7.9
80°-90°	90.6	2.3
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°	1068.2	27.5
0°-40°	1733.0	44.5
0°-60°	3017.6	77.6
0°-90°	3890.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3890.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1394	1394	1394	1394	1394	
5°	1379	1383	1390	1392	1394	131
15°	1312	1320	1330	1341	1343	370
25°	1187	1198	1223	1240	1247	546
35°	1016	1029	1064	1096	1107	635
45°	817	835	878	924	936	631
55°	608	628	681	728	748	545
65°	399	423	486	534	555	397
75°	203	234	300	350	368	218
85°	49	67	87	87	87	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1393.9	1393.9	1393.9	1393.9	1393.9
2.5°	1384.8	1388.5	1395.7	1397.5	1397.5
5°	1379.4	1383.0	1390.3	1392.1	1393.9
7.5°	1370.3	1372.1	1381.2	1384.8	1386.6
10°	1355.8	1359.4	1368.5	1373.9	1375.8
12.5°	1335.8	1341.3	1352.2	1359.4	1361.2
15°	1312.2	1319.5	1330.4	1341.3	1343.1
17.5°	1286.8	1294.1	1308.6	1321.3	1324.9
20°	1256.0	1265.0	1281.4	1295.9	1301.3
22.5°	1225.1	1232.4	1252.3	1270.5	1275.9
25°	1187.0	1197.9	1223.3	1239.6	1246.9
27.5°	1147.1	1159.8	1185.2	1207.0	1214.2
30°	1105.3	1118.0	1145.3	1172.5	1181.6
32.5°	1061.8	1076.3	1109.0	1136.2	1145.3
35°	1016.4	1029.1	1063.6	1096.3	1107.1
37.5°	969.2	980.1	1020.0	1054.5	1065.4
40°	918.4	932.9	974.6	1014.6	1025.5
42.5°	867.6	883.9	925.6	969.2	980.1
45°	816.7	834.9	878.5	923.8	936.5
47.5°	767.7	782.3	831.3	874.8	893.0
50°	715.1	729.6	776.8	825.8	844.0
52.5°	660.7	680.6	731.4	778.6	800.4
55°	608.0	628.0	680.6	727.8	747.8
57.5°	559.0	575.4	629.8	678.8	698.8
60°	506.4	520.9	579.0	631.6	649.8
62.5°	450.1	471.9	531.8	580.8	602.6
65°	399.3	422.9	486.4	533.6	555.4
67.5°	352.1	373.9	435.6	486.4	510.0
70°	297.7	326.7	390.2	441.0	462.8
72.5°	254.1	279.5	344.8	395.7	419.3
75°	203.3	234.1	299.5	350.3	368.4
77.5°	161.5	192.4	254.1	294.0	303.1
80°	118.0	148.8	206.9	226.9	232.3
82.5°	79.9	108.9	148.8	154.3	156.1
85°	49.0	67.2	87.1	87.1	87.1
87.5°	23.6	27.2	30.9	29.0	29.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)