

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: P312441

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-HRP-CA08-W2A-U-3500K**

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: P312441
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-22)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-20HE-UNV-L83050-HRP-CA08-W2A-U-3500K
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 3500K 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: 1567.0 lumens
Efficiency: N/A
Efficacy: 93.8 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

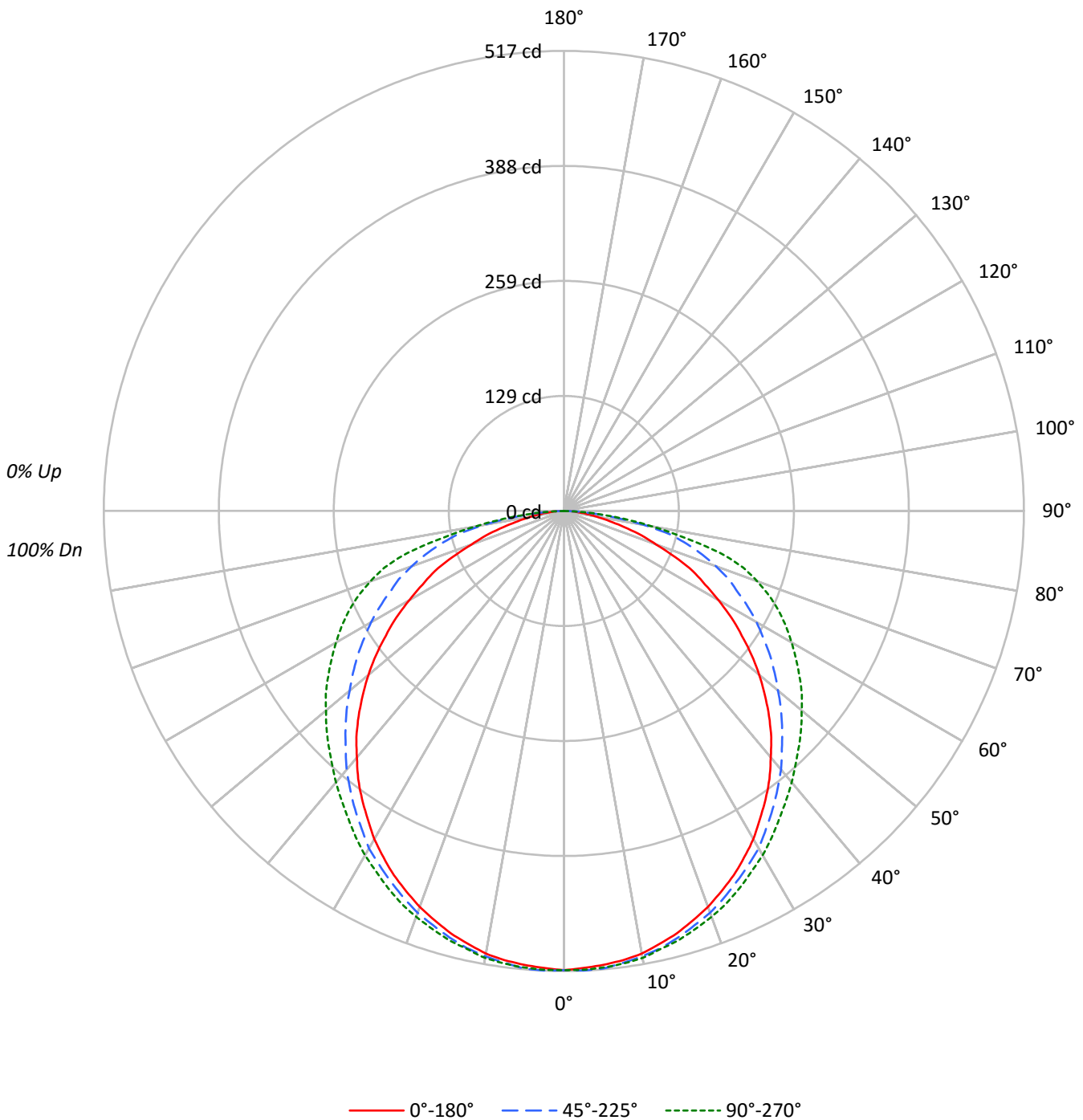
Input Watts (W): 16.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	87	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	68
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	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	39	50	43	38	49	43	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	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	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1389	1389	1389
5°	1383	1394	1391
10°	1380	1388	1394
15°	1369	1382	1391
20°	1356	1376	1390
25°	1341	1365	1388
30°	1324	1361	1388
35°	1299	1344	1387
40°	1271	1333	1400
45°	1241	1321	1422
50°	1200	1316	1461
55°	1146	1326	1516
60°	1080	1346	1591
65°	1019	1372	1699
70°	871	1431	1820
75°	730	1490	1891
80°	598	1440	1578
85°	519	1068	1161



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.9	3.1
10°-20°	139.9	8.9
20°-30°	212.0	13.5
30°-40°	256.0	16.3
40°-50°	269.0	17.2
50°-60°	253.1	16.2
60°-70°	211.0	13.5
70°-80°	139.8	8.9
80°-90°	37.3	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°	400.8	25.6
0°-40°	656.8	41.9
0°-60°	1178.9	75.2
0°-90°	1567.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1567.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	516	516	516	516	516	
5°	512	513	516	516	515	49
15°	491	493	496	498	499	139
25°	452	455	460	466	468	208
35°	395	399	409	418	422	247
45°	326	331	347	365	374	251
55°	244	255	283	311	323	218
65°	160	174	216	251	267	156
75°	70	98	143	173	182	76
85°	17	26	35	38	38	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	516.0	516.0	516.0	516.0	516.0
2.5°	514.0	515.0	517.0	517.0	516.0
5°	512.0	513.0	516.0	516.0	515.0
7.5°	509.1	510.1	512.0	514.0	513.0
10°	505.1	506.1	508.1	510.1	510.1
12.5°	498.2	499.2	503.1	504.1	504.1
15°	491.3	493.3	496.2	498.2	499.2
17.5°	482.4	484.4	488.3	492.3	492.3
20°	473.5	475.5	480.4	484.4	485.4
22.5°	462.6	465.6	470.5	475.5	477.4
25°	451.7	454.7	459.7	465.6	467.6
27.5°	438.9	441.9	448.8	455.7	456.7
30°	426.0	429.0	437.9	443.8	446.8
32.5°	410.2	414.2	423.1	432.0	434.9
35°	395.4	399.4	409.2	418.1	422.1
37.5°	379.6	383.5	394.4	405.3	410.2
40°	361.8	366.7	379.6	391.4	398.4
42.5°	345.0	349.9	362.8	378.6	385.5
45°	326.2	331.1	347.0	364.8	373.7
47.5°	306.4	312.4	331.1	352.9	361.8
50°	286.7	293.6	314.3	339.1	348.9
52.5°	265.9	274.8	298.5	325.2	337.1
55°	244.2	255.0	282.7	311.4	323.2
57.5°	223.4	233.3	265.9	296.5	309.4
60°	200.7	213.5	250.1	281.7	295.6
62.5°	178.9	192.8	233.3	266.9	281.7
65°	160.1	174.0	215.5	251.1	266.9
67.5°	135.4	154.2	200.7	234.3	250.1
70°	110.7	136.4	181.9	216.5	231.3
72.5°	91.9	116.6	163.1	197.7	211.5
75°	70.2	97.9	143.3	173.0	181.9
77.5°	52.4	81.1	122.6	137.4	138.4
80°	38.6	62.3	92.9	97.9	101.8
82.5°	26.7	43.5	60.3	66.2	68.2
85°	16.8	25.7	34.6	37.6	37.6
87.5°	8.9	9.9	11.9	11.9	11.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)