

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: P312443

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-HRP-CA08-W2A-U-4500K**

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: P312443
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-4500K
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 4500K 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: 1661.0 lumens
Efficiency: N/A
Efficacy: 94.9 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

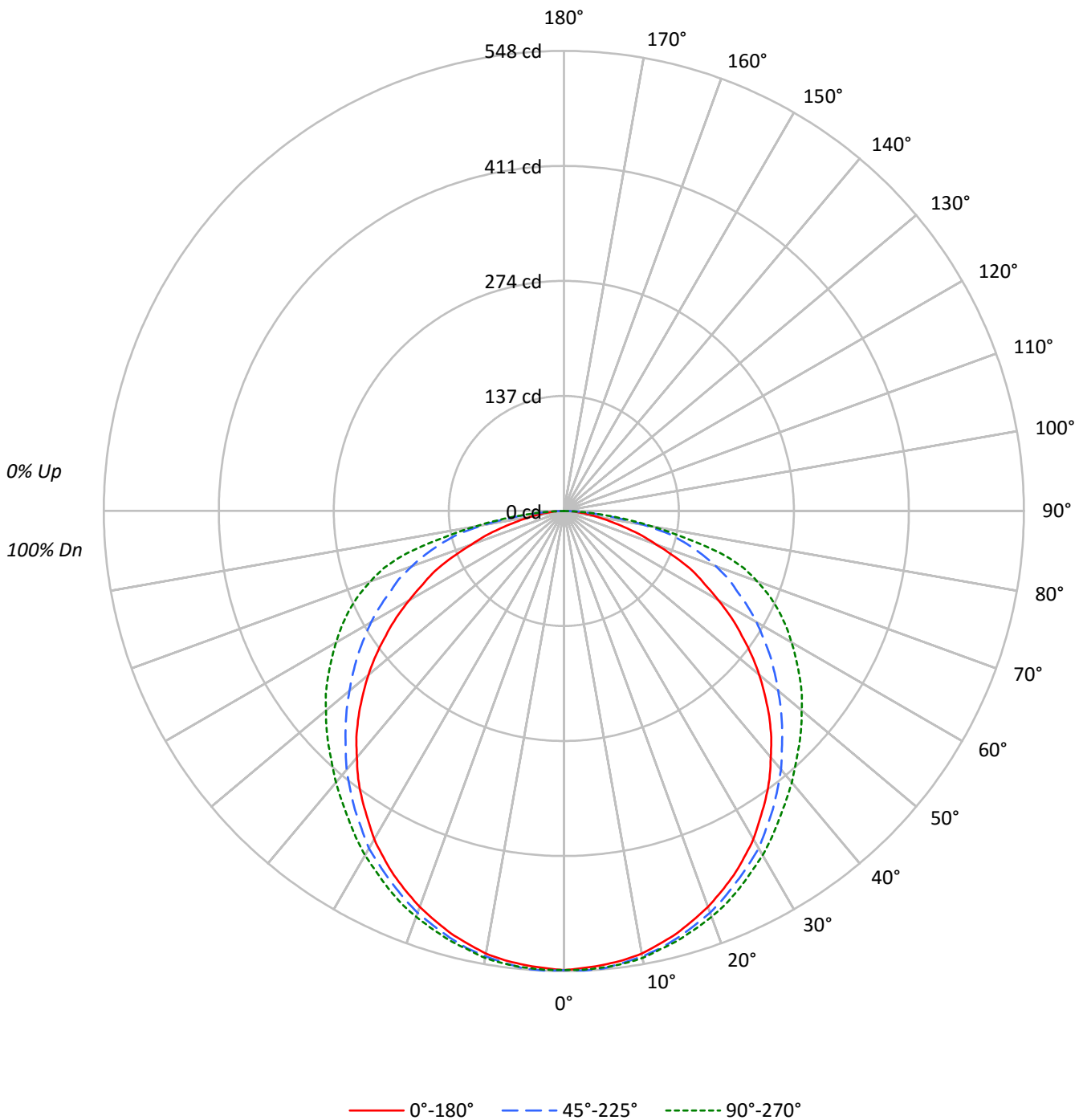
Input Watts (W): 17.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: 22FC22-20HE-UNV-L83050-HRP-CA08-W2A-U-4500K

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	84	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°	1472	1472	1472
5°	1466	1477	1475
10°	1463	1472	1477
15°	1451	1465	1474
20°	1437	1458	1473
25°	1422	1447	1472
30°	1403	1442	1472
35°	1377	1425	1470
40°	1347	1414	1483
45°	1316	1400	1507
50°	1272	1395	1549
55°	1214	1406	1607
60°	1145	1427	1686
65°	1081	1454	1801
70°	924	1517	1929
75°	774	1579	2005
80°	634	1526	1672
85°	550	1133	1229



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.8	3.1
10°-20°	148.3	8.9
20°-30°	224.7	13.5
30°-40°	271.4	16.3
40°-50°	285.1	17.2
50°-60°	268.3	16.2
60°-70°	223.7	13.5
70°-80°	148.2	8.9
80°-90°	39.5	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°	424.8	25.6
0°-40°	696.2	41.9
0°-60°	1249.6	75.2
0°-90°	1661.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1661.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	547	547	547	547	547	
5°	543	544	547	547	546	52
15°	521	523	526	528	529	147
25°	479	482	487	494	496	220
35°	419	423	434	443	447	262
45°	346	351	368	387	396	266
55°	259	270	300	330	343	232
65°	170	184	228	266	283	165
75°	74	104	152	183	193	81
85°	18	27	37	40	40	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	546.9	546.9	546.9	546.9	546.9
2.5°	544.9	545.9	548.0	548.0	546.9
5°	542.8	543.8	546.9	546.9	545.9
7.5°	539.6	540.7	542.8	544.9	543.8
10°	535.4	536.5	538.6	540.7	540.7
12.5°	528.1	529.1	533.3	534.4	534.4
15°	520.8	522.8	526.0	528.1	529.1
17.5°	511.3	513.4	517.6	521.8	521.8
20°	501.9	504.0	509.2	513.4	514.5
22.5°	490.4	493.5	498.8	504.0	506.1
25°	478.8	482.0	487.2	493.5	495.6
27.5°	465.2	468.4	475.7	483.0	484.1
30°	451.6	454.7	464.2	470.5	473.6
32.5°	434.8	439.0	448.5	457.9	461.0
35°	419.1	423.3	433.8	443.2	447.4
37.5°	402.4	406.5	418.1	429.6	434.8
40°	383.5	388.7	402.4	414.9	422.3
42.5°	365.7	370.9	384.5	401.3	408.6
45°	345.8	351.0	367.8	386.6	396.1
47.5°	324.8	331.1	351.0	374.1	383.5
50°	303.9	311.2	333.2	359.4	369.9
52.5°	281.9	291.3	316.4	344.7	357.3
55°	258.8	270.3	299.7	330.1	342.6
57.5°	236.8	247.3	281.9	314.3	328.0
60°	212.7	226.3	265.1	298.6	313.3
62.5°	189.7	204.3	247.3	282.9	298.6
65°	169.7	184.4	228.4	266.1	282.9
67.5°	143.5	163.5	212.7	248.3	265.1
70°	117.4	144.6	192.8	229.5	245.2
72.5°	97.4	123.6	172.9	209.6	224.2
75°	74.4	103.7	151.9	183.4	192.8
77.5°	55.5	85.9	129.9	145.6	146.7
80°	40.9	66.0	98.5	103.7	107.9
82.5°	28.3	46.1	63.9	70.2	72.3
85°	17.8	27.2	36.7	39.8	39.8
87.5°	9.4	10.5	12.6	12.6	12.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)