

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: P312741

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-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: P312741
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-33)
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-CA08-W2A-U-3500K
Description: 2'X2' TROFFER LED MODULE, RIBBED 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: 1946.0 lumens
Efficiency: N/A
Efficacy: 116.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

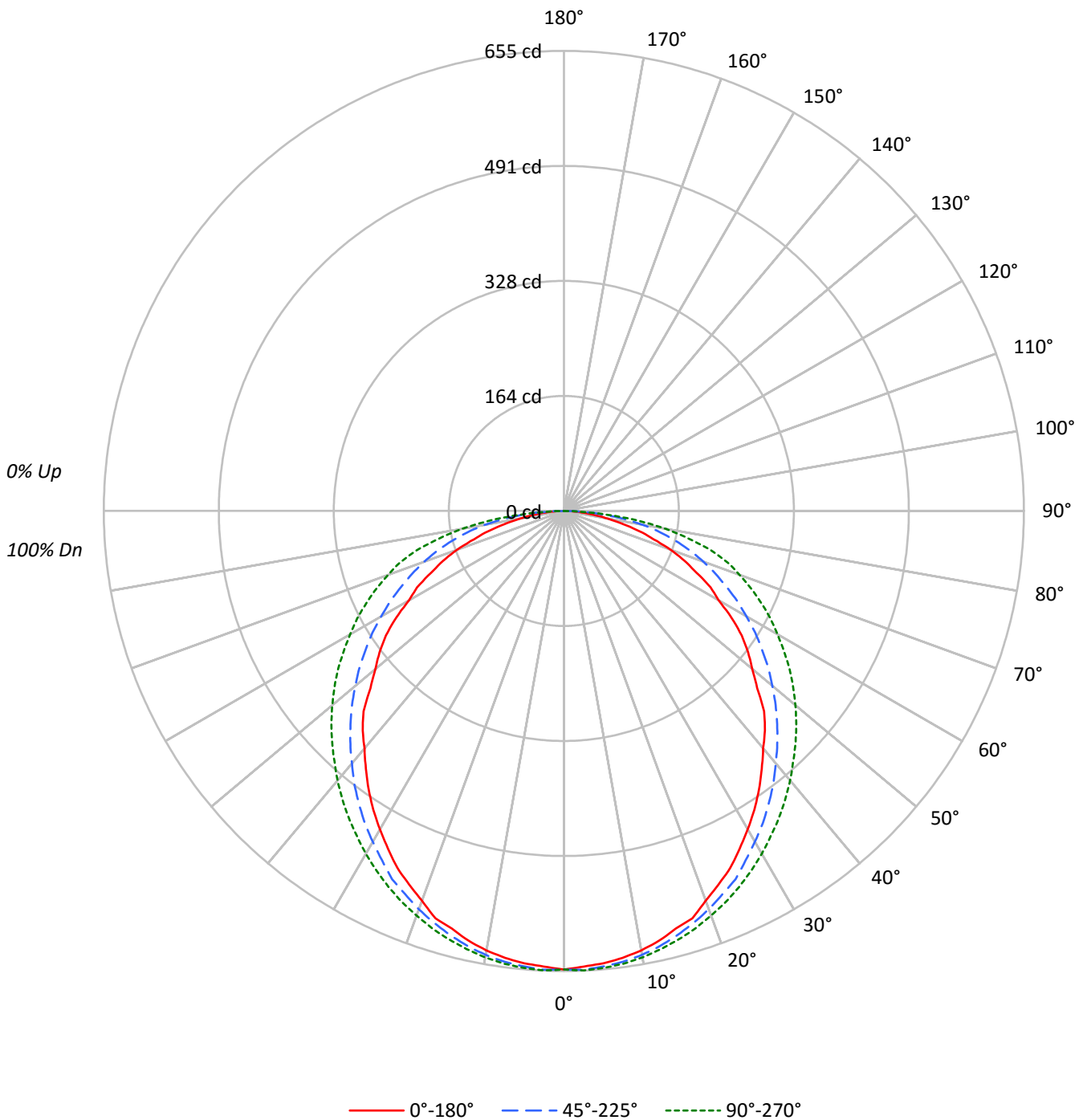
Input Watts (W): 16.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	96	92	96	93	90	92	89	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	60	68	63	59	56
4	81	69	60	53	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	51	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
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	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1757	1757	1757
5°	1746	1759	1764
10°	1736	1753	1764
15°	1715	1741	1759
20°	1691	1728	1755
25°	1665	1717	1753
30°	1626	1690	1751
35°	1591	1670	1753
40°	1551	1649	1760
45°	1535	1634	1776
50°	1466	1622	1801
55°	1451	1617	1840
60°	1369	1614	1890
65°	1328	1625	1975
70°	1275	1663	2096
75°	1162	1714	2256
80°	996	1776	2281
85°	806	1698	1954



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.8	3.2
10°-20°	176.2	9.1
20°-30°	265.3	13.6
30°-40°	318.4	16.4
40°-50°	332.8	17.1
50°-60°	310.1	15.9
60°-70°	254.3	13.1
70°-80°	171.4	8.8
80°-90°	55.8	2.9
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°	503.3	25.9
0°-40°	821.6	42.2
0°-60°	1464.5	75.3
0°-90°	1946.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1946.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	653	653	653	653	653	
5°	646	648	651	652	653	61
15°	616	619	625	630	632	174
25°	561	564	578	587	590	258
35°	484	491	508	526	534	303
45°	403	406	429	455	467	308
55°	309	315	345	377	392	274
65°	209	218	255	292	310	208
75°	112	124	165	202	217	118
85°	26	37	55	64	63	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	652.9	652.9	652.9	652.9	652.9
2.5°	649.2	651.0	653.8	654.8	654.8
5°	646.4	648.2	651.0	652.0	652.9
7.5°	641.7	643.6	647.3	649.2	650.1
10°	635.2	637.1	641.7	644.5	645.4
12.5°	626.8	628.7	634.3	638.0	638.9
15°	615.6	619.4	625.0	630.5	631.5
17.5°	608.2	607.3	614.7	621.2	623.1
20°	590.5	595.2	603.5	611.0	612.9
22.5°	575.6	579.3	590.5	598.9	602.6
25°	560.7	564.4	578.4	586.8	590.5
27.5°	542.1	547.7	560.7	572.8	577.5
30°	523.4	529.0	543.9	557.9	563.5
32.5°	504.8	511.3	527.2	542.1	548.6
35°	484.3	490.8	508.5	526.2	533.7
37.5°	462.9	471.3	489.9	509.5	517.8
40°	441.5	449.9	469.4	491.8	501.1
42.5°	423.8	427.5	449.9	474.1	483.4
45°	403.3	406.1	429.4	455.4	466.6
47.5°	373.5	383.7	408.9	437.8	448.9
50°	350.2	361.4	387.5	418.2	430.3
52.5°	330.6	338.1	367.0	397.7	411.7
55°	309.2	314.8	344.6	377.2	392.1
57.5°	283.1	293.4	323.2	356.7	371.6
60°	254.3	267.3	299.9	336.2	351.1
62.5°	235.6	243.1	278.5	314.8	331.6
65°	208.6	217.9	255.2	292.5	310.2
67.5°	186.3	195.6	233.8	271.0	288.7
70°	162.1	171.4	211.4	248.7	266.4
72.5°	134.1	147.2	189.1	226.3	245.0
75°	111.8	123.9	164.9	202.1	217.0
77.5°	86.6	102.5	140.6	171.4	182.6
80°	64.3	80.1	114.6	136.9	147.2
82.5°	43.8	59.6	85.7	102.5	108.0
85°	26.1	37.3	55.0	64.3	63.3
87.5°	12.1	15.8	22.4	22.4	21.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)