

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: P308870

Luminaire Tested: **22FCZ2-20HE-UNV-L82765-S-CA08-W2A-U-2700K**

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: P308870
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: 22FCZ2-20HE-UNV-L82765-S-CA08-W2A-U-2700K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 2700K 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: 1883.0 lumens
Efficiency: N/A
Efficacy: 112.8 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

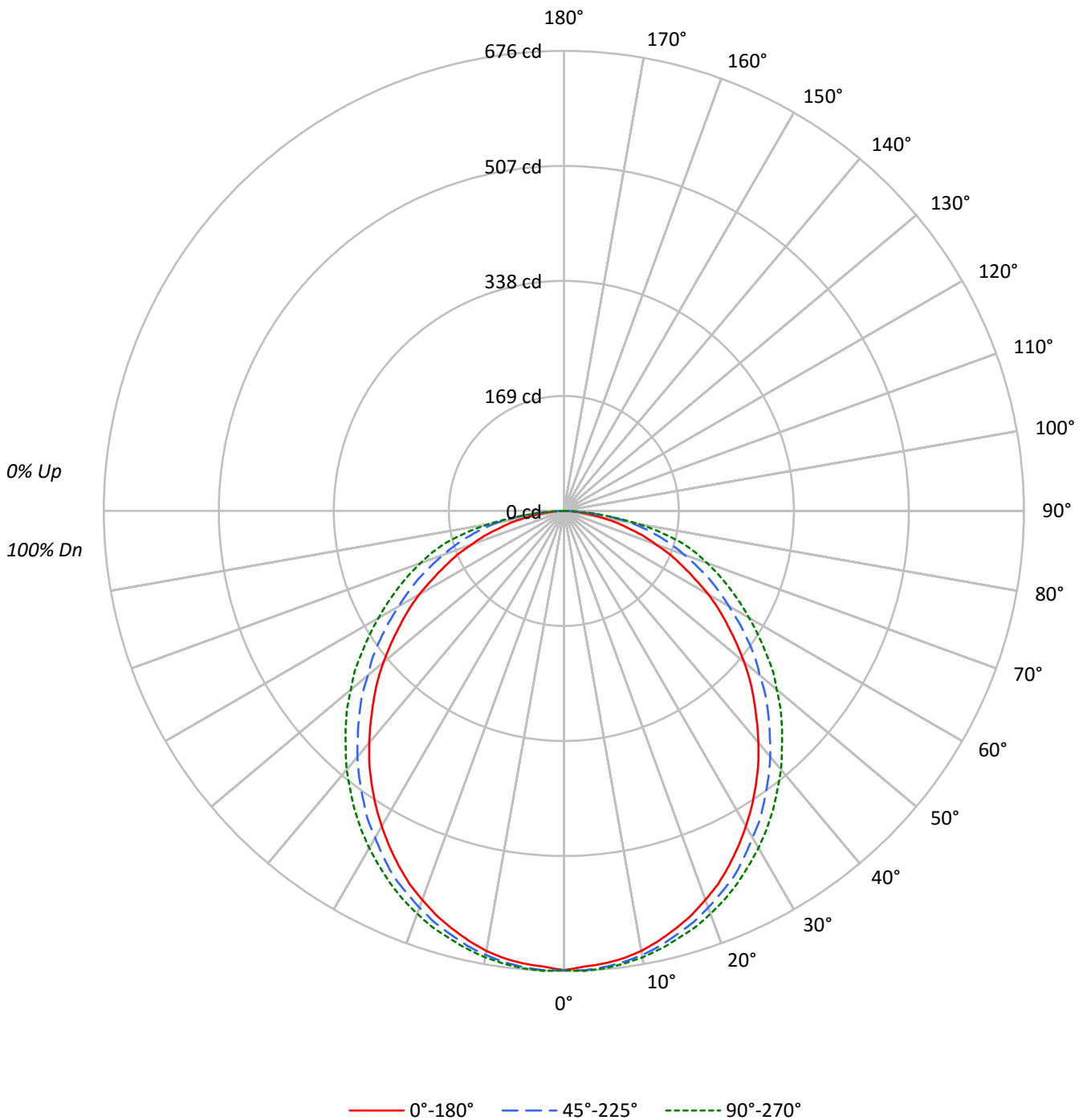
Input Watts (W): 16.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1816	1816	1816
5°	1804	1818	1823
10°	1793	1810	1820
15°	1770	1794	1811
20°	1741	1776	1804
25°	1706	1758	1792
30°	1662	1723	1777
35°	1616	1691	1760
40°	1562	1657	1744
45°	1505	1618	1725
50°	1449	1574	1710
55°	1381	1546	1698
60°	1319	1509	1693
65°	1231	1500	1712
70°	1134	1486	1762
75°	1023	1508	1854
80°	885	1553	1743
85°	732	1303	1303



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.8	3.4
10°-20°	181.6	9.6
20°-30°	271.7	14.4
30°-40°	321.8	17.1
40°-50°	327.9	17.4
50°-60°	293.9	15.6
60°-70°	230.1	12.2
70°-80°	148.4	7.9
80°-90°	43.8	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°	517.1	27.5
0°-40°	838.9	44.5
0°-60°	1460.7	77.6
0°-90°	1883.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1883.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	675	675	675	675	675	
5°	668	670	673	674	675	63
15°	635	639	644	649	650	179
25°	575	580	592	600	604	264
35°	492	498	515	531	536	308
45°	395	404	425	447	453	305
55°	294	304	330	352	362	264
65°	193	205	236	258	269	192
75°	98	113	145	170	178	106
85°	24	32	42	42	42	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	674.7	674.7	674.7	674.7	674.7
2.5°	670.3	672.1	675.6	676.5	676.5
5°	667.7	669.5	673.0	673.9	674.7
7.5°	663.3	664.2	668.6	670.3	671.2
10°	656.3	658.0	662.4	665.1	666.0
12.5°	646.6	649.3	654.5	658.0	658.9
15°	635.2	638.7	644.0	649.3	650.1
17.5°	622.9	626.4	633.4	639.6	641.4
20°	608.0	612.4	620.3	627.3	629.9
22.5°	593.0	596.5	606.2	615.0	617.6
25°	574.6	579.9	592.2	600.1	603.6
27.5°	555.3	561.4	573.7	584.2	587.8
30°	535.0	541.2	554.4	567.6	571.9
32.5°	514.0	521.0	536.8	550.0	554.4
35°	492.0	498.1	514.8	530.7	535.9
37.5°	469.2	474.4	493.8	510.4	515.7
40°	444.6	451.6	471.8	491.1	496.4
42.5°	420.0	427.9	448.1	469.2	474.4
45°	395.4	404.1	425.2	447.2	453.3
47.5°	371.6	378.7	402.4	423.5	432.3
50°	346.2	353.2	376.0	399.7	408.5
52.5°	319.8	329.5	354.1	376.9	387.4
55°	294.3	304.0	329.5	352.3	362.0
57.5°	270.6	278.5	304.9	328.6	338.2
60°	245.1	252.1	280.3	305.7	314.5
62.5°	217.9	228.4	257.4	281.1	291.7
65°	193.3	204.7	235.5	258.3	268.8
67.5°	170.4	181.0	210.9	235.5	246.9
70°	144.1	158.1	188.9	213.5	224.0
72.5°	123.0	135.3	166.9	191.5	202.9
75°	98.4	113.3	145.0	169.6	178.3
77.5°	78.2	93.1	123.0	142.3	146.7
80°	57.1	72.0	100.2	109.8	112.5
82.5°	38.7	52.7	72.0	74.7	75.6
85°	23.7	32.5	42.2	42.2	42.2
87.5°	11.4	13.2	14.9	14.1	14.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)