

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: P308604

Luminaire Tested: **22FCZ2-20HE-UNV-L82765-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: P308604
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-L82765-CA08-W2A-U-4500K
Description: 2'X2' TROFFER LED MODULE, RIBBED 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: 1976.0 lumens
Efficiency: N/A
Efficacy: 116.2 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

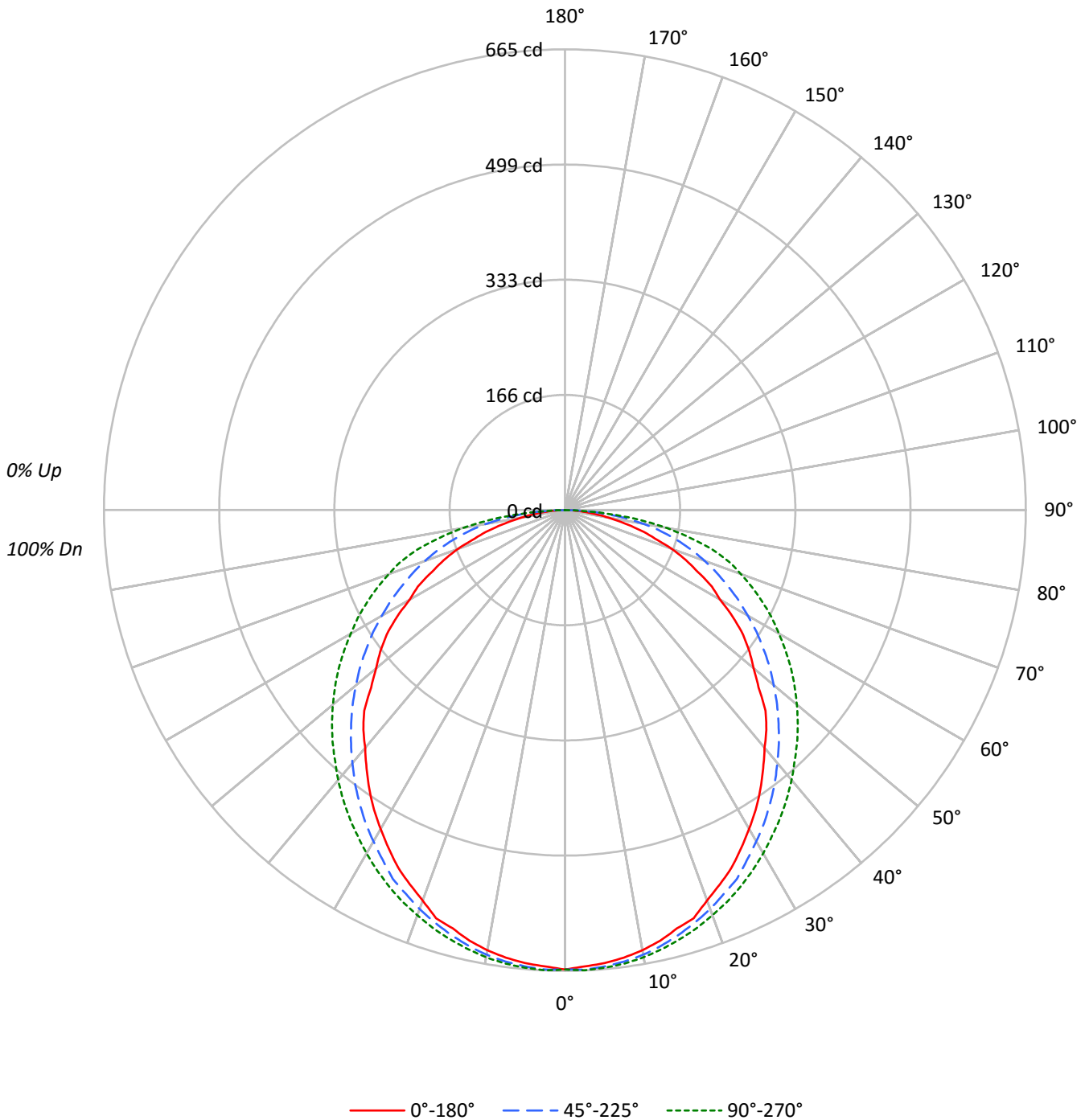
Input Watts (W): 17
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1784	1784	1784
5°	1773	1786	1791
10°	1762	1780	1791
15°	1741	1768	1786
20°	1717	1755	1782
25°	1690	1744	1780
30°	1652	1716	1778
35°	1616	1696	1780
40°	1575	1675	1787
45°	1558	1659	1803
50°	1489	1647	1829
55°	1473	1642	1868
60°	1390	1639	1919
65°	1349	1650	2005
70°	1295	1689	2128
75°	1180	1740	2292
80°	1012	1802	2315
85°	818	1723	1985



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.7	3.2
10°-20°	179.0	9.1
20°-30°	269.3	13.6
30°-40°	323.3	16.4
40°-50°	337.9	17.1
50°-60°	314.9	15.9
60°-70°	258.3	13.1
70°-80°	174.0	8.8
80°-90°	56.7	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°	511.0	25.9
0°-40°	834.3	42.2
0°-60°	1487.0	75.3
0°-90°	1976.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1976.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	663	663	663	663	663	
5°	656	658	661	662	663	62
15°	625	629	635	640	641	177
25°	569	573	587	596	600	262
35°	492	498	516	534	542	307
45°	410	412	436	462	474	313
55°	314	320	350	383	398	278
65°	212	221	259	297	315	211
75°	114	126	167	205	220	119
85°	26	38	56	65	64	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	663.0	663.0	663.0	663.0	663.0
2.5°	659.2	661.1	663.9	664.9	664.9
5°	656.3	658.2	661.1	662.0	663.0
7.5°	651.6	653.5	657.3	659.2	660.1
10°	645.0	646.9	651.6	654.5	655.4
12.5°	636.5	638.4	644.0	647.8	648.8
15°	625.1	628.9	634.6	640.3	641.2
17.5°	617.6	616.6	624.2	630.8	632.7
20°	599.6	604.3	612.8	620.4	622.3
22.5°	584.5	588.3	599.6	608.1	611.9
25°	569.3	573.1	587.3	595.8	599.6
27.5°	550.4	556.1	569.3	581.6	586.4
30°	531.5	537.2	552.3	566.5	572.2
32.5°	512.6	519.2	535.3	550.4	557.0
35°	491.8	498.4	516.4	534.3	541.9
37.5°	470.0	478.5	497.5	517.3	525.8
40°	448.3	456.8	476.7	499.4	508.8
42.5°	430.3	434.1	456.8	481.4	490.8
45°	409.5	412.3	436.0	462.5	473.8
47.5°	379.2	389.6	415.2	444.5	455.8
50°	355.6	366.9	393.4	424.6	436.9
52.5°	335.7	343.3	372.6	403.8	418.0
55°	314.0	319.7	349.9	383.0	398.2
57.5°	287.5	297.9	328.2	362.2	377.4
60°	258.2	271.4	304.5	341.4	356.5
62.5°	239.3	246.8	282.8	319.7	336.7
65°	211.8	221.3	259.1	297.0	314.9
67.5°	189.1	198.6	237.4	275.2	293.2
70°	164.6	174.0	214.7	252.5	270.5
72.5°	136.2	149.4	192.0	229.8	248.7
75°	113.5	125.8	167.4	205.2	220.4
77.5°	88.0	104.0	142.8	174.0	185.4
80°	65.3	81.3	116.3	139.0	149.4
82.5°	44.4	60.5	87.0	104.0	109.7
85°	26.5	37.8	55.8	65.3	64.3
87.5°	12.3	16.1	22.7	22.7	21.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)