

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: P308899

Luminaire Tested: **22FCZ2-20HE-UNV-L82765-S-CP187-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: P308899
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-CP187-W2A-U-3500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB 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: 1876.0 lumens
Efficiency: N/A
Efficacy: 111.7 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

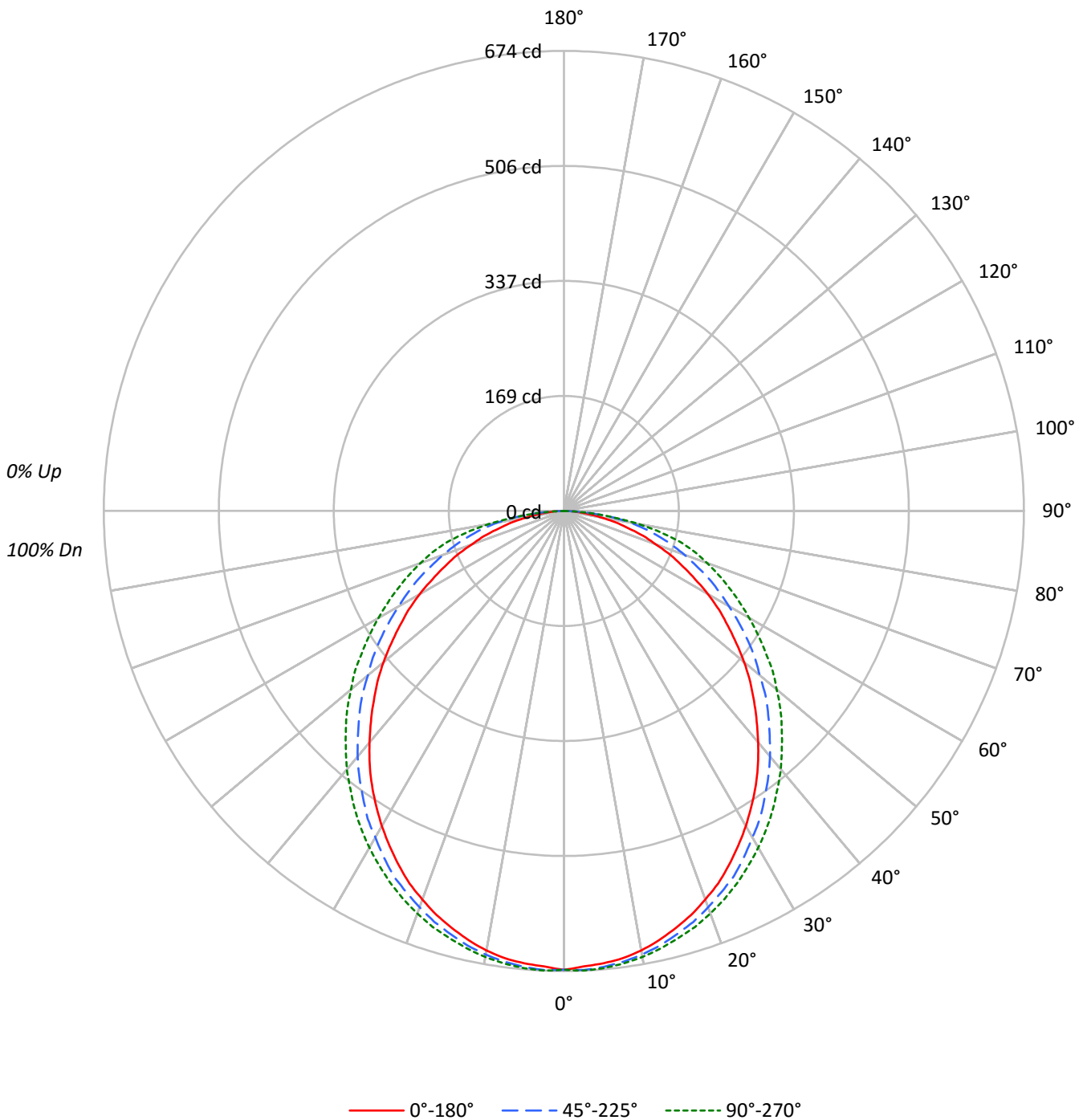
Input Watts (W): 16.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1809	1809	1809
5°	1797	1811	1816
10°	1787	1803	1813
15°	1763	1787	1804
20°	1735	1770	1797
25°	1700	1752	1785
30°	1656	1716	1771
35°	1610	1685	1754
40°	1556	1651	1737
45°	1499	1612	1719
50°	1444	1568	1704
55°	1376	1540	1692
60°	1314	1503	1687
65°	1226	1494	1705
70°	1129	1481	1756
75°	1019	1501	1848
80°	882	1547	1736
85°	729	1297	1297



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.6	3.4
10°-20°	180.9	9.6
20°-30°	270.7	14.4
30°-40°	320.6	17.1
40°-50°	326.7	17.4
50°-60°	292.8	15.6
60°-70°	229.3	12.2
70°-80°	147.8	7.9
80°-90°	43.7	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°	515.2	27.5
0°-40°	835.7	44.5
0°-60°	1455.3	77.6
0°-90°	1876.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1876.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	672	672	672	672	672	
5°	665	667	670	671	672	63
15°	633	636	642	647	648	178
25°	572	578	590	598	601	264
35°	490	496	513	529	534	306
45°	394	403	424	446	452	304
55°	293	303	328	351	361	263
65°	193	204	235	257	268	191
75°	98	113	144	169	178	105
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°	672.2	672.2	672.2	672.2	672.2
2.5°	667.9	669.6	673.1	674.0	674.0
5°	665.2	667.0	670.5	671.4	672.2
7.5°	660.9	661.7	666.1	667.9	668.7
10°	653.8	655.6	660.0	662.6	663.5
12.5°	644.2	646.8	652.1	655.6	656.5
15°	632.8	636.3	641.6	646.8	647.7
17.5°	620.6	624.1	631.1	637.2	639.0
20°	605.7	610.1	618.0	625.0	627.6
22.5°	590.8	594.3	604.0	612.7	615.3
25°	572.4	577.7	590.0	597.8	601.3
27.5°	553.2	559.3	571.6	582.1	585.6
30°	533.1	539.2	552.3	565.4	569.8
32.5°	512.0	519.1	534.8	547.9	552.3
35°	490.2	496.3	512.9	528.7	533.9
37.5°	467.4	472.7	491.9	508.5	513.8
40°	442.9	449.9	470.0	489.3	494.5
42.5°	418.4	426.3	446.4	467.4	472.7
45°	393.9	402.6	423.6	445.5	451.7
47.5°	370.3	377.3	400.9	421.9	430.6
50°	344.9	351.9	374.6	398.3	407.0
52.5°	318.6	328.2	352.7	375.5	386.0
55°	293.2	302.9	328.2	351.0	360.6
57.5°	269.6	277.5	303.7	327.4	337.0
60°	244.2	251.2	279.2	304.6	313.4
62.5°	217.1	227.6	256.5	280.1	290.6
65°	192.6	203.9	234.6	257.3	267.8
67.5°	169.8	180.3	210.1	234.6	246.0
70°	143.5	157.6	188.2	212.7	223.2
72.5°	122.5	134.8	166.3	190.8	202.2
75°	98.0	112.9	144.4	168.9	177.7
77.5°	77.9	92.8	122.5	141.8	146.2
80°	56.9	71.8	99.8	109.4	112.0
82.5°	38.5	52.5	71.8	74.4	75.3
85°	23.6	32.4	42.0	42.0	42.0
87.5°	11.4	13.1	14.9	14.0	14.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)