

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: P312936

Luminaire Tested: **22FCZ2-24HE-UNV-L83050-S-CP250-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: P312936
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: 22FCZ2-24HE-UNV-L83050-S-CP250-W2A-U-3500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB 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: 2148.0 lumens
Efficiency: N/A
Efficacy: 113.6 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

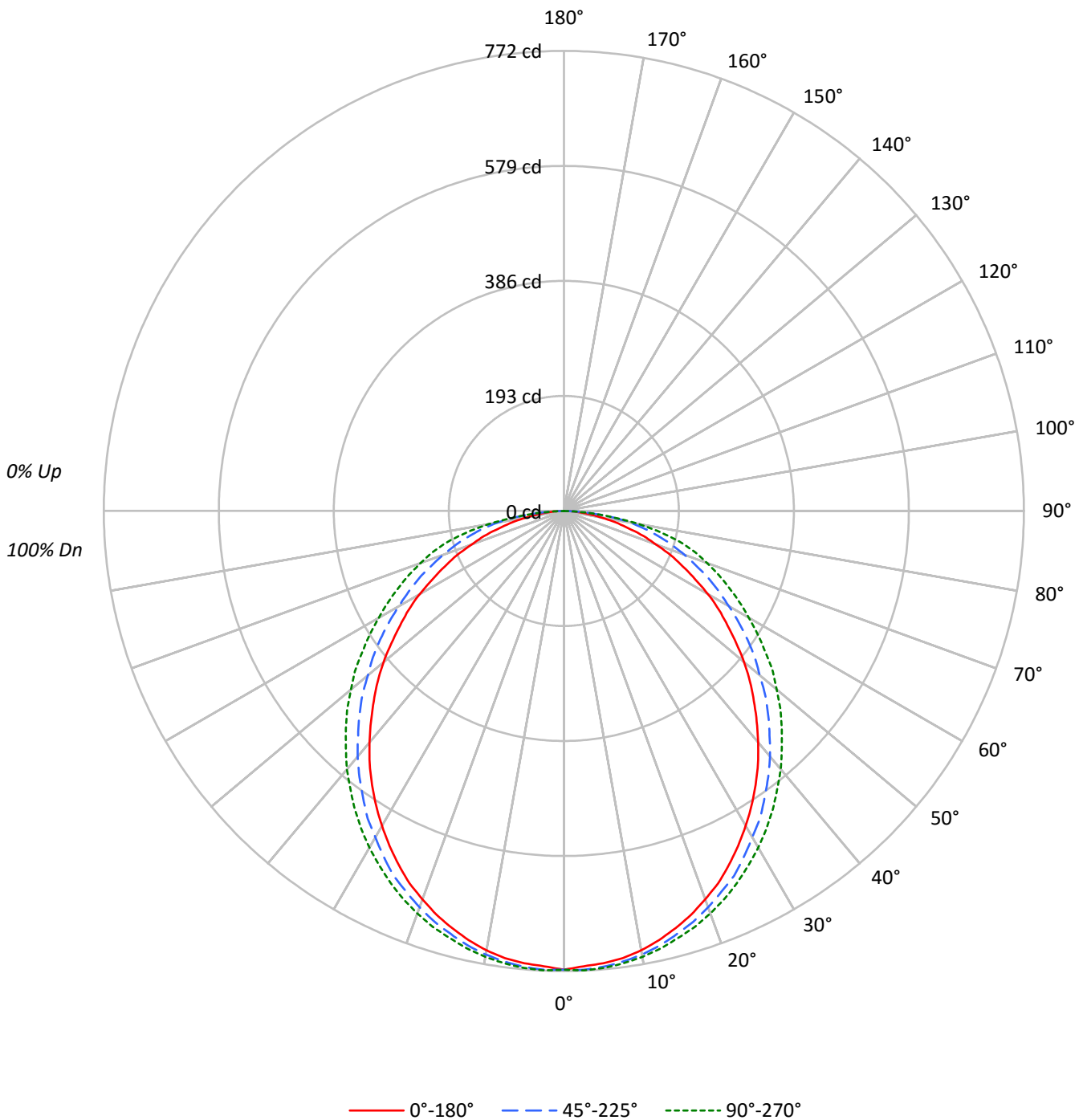
Input Watts (W): 18.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2071	2071	2071
5°	2058	2074	2079
10°	2046	2065	2076
15°	2019	2047	2066
20°	1986	2026	2058
25°	1946	2006	2044
30°	1896	1965	2027
35°	1844	1929	2008
40°	1781	1891	1989
45°	1716	1846	1968
50°	1653	1796	1951
55°	1575	1763	1937
60°	1505	1721	1931
65°	1404	1710	1953
70°	1293	1696	2011
75°	1167	1720	2115
80°	1009	1771	1988
85°	837	1485	1485



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.8	3.4
10°-20°	207.1	9.6
20°-30°	309.9	14.4
30°-40°	367.0	17.1
40°-50°	374.1	17.4
50°-60°	335.3	15.6
60°-70°	262.5	12.2
70°-80°	169.3	7.9
80°-90°	50.0	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°	589.9	27.5
0°-40°	956.9	44.5
0°-60°	1666.2	77.6
0°-90°	2148.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2148.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	770	770	770	770	770	
5°	762	764	768	769	770	72
15°	725	729	735	741	742	204
25°	655	662	676	684	688	302
35°	561	568	587	605	611	351
45°	451	461	485	510	517	348
55°	336	347	376	402	413	301
65°	220	234	269	295	307	219
75°	112	129	165	193	203	120
85°	27	37	48	48	48	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	769.7	769.7	769.7	769.7	769.7
2.5°	764.7	766.7	770.7	771.7	771.7
5°	761.7	763.7	767.7	768.7	769.7
7.5°	756.7	757.7	762.7	764.7	765.7
10°	748.6	750.7	755.7	758.7	759.7
12.5°	737.6	740.6	746.6	750.7	751.7
15°	724.6	728.6	734.6	740.6	741.6
17.5°	710.6	714.6	722.6	729.6	731.6
20°	693.5	698.5	707.6	715.6	718.6
22.5°	676.5	680.5	691.5	701.5	704.6
25°	655.4	661.5	675.5	684.5	688.5
27.5°	633.4	640.4	654.4	666.5	670.5
30°	610.3	617.4	632.4	647.4	652.4
32.5°	586.3	594.3	612.3	627.4	632.4
35°	561.2	568.3	587.3	605.3	611.3
37.5°	535.2	541.2	563.2	582.3	588.3
40°	507.1	515.1	538.2	560.2	566.2
42.5°	479.1	488.1	511.1	535.2	541.2
45°	451.0	461.0	485.1	510.1	517.1
47.5°	423.9	432.0	459.0	483.1	493.1
50°	394.9	402.9	428.9	456.0	466.0
52.5°	364.8	375.8	403.9	429.9	442.0
55°	335.7	346.8	375.8	401.9	412.9
57.5°	308.7	317.7	347.8	374.8	385.8
60°	279.6	287.6	319.7	348.8	358.8
62.5°	248.5	260.6	293.6	320.7	332.7
65°	220.5	233.5	268.6	294.6	306.7
67.5°	194.4	206.5	240.5	268.6	281.6
70°	164.4	180.4	215.5	243.5	255.6
72.5°	140.3	154.3	190.4	218.5	231.5
75°	112.2	129.3	165.4	193.4	203.4
77.5°	89.2	106.2	140.3	162.4	167.4
80°	65.1	82.2	114.3	125.3	128.3
82.5°	44.1	60.1	82.2	85.2	86.2
85°	27.1	37.1	48.1	48.1	48.1
87.5°	13.0	15.0	17.0	16.0	16.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)