

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: P312911

Luminaire Tested: **22FCZ2-20HE-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: P312911
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-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: 1904.0 lumens
Efficiency: N/A
Efficacy: 114.0 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

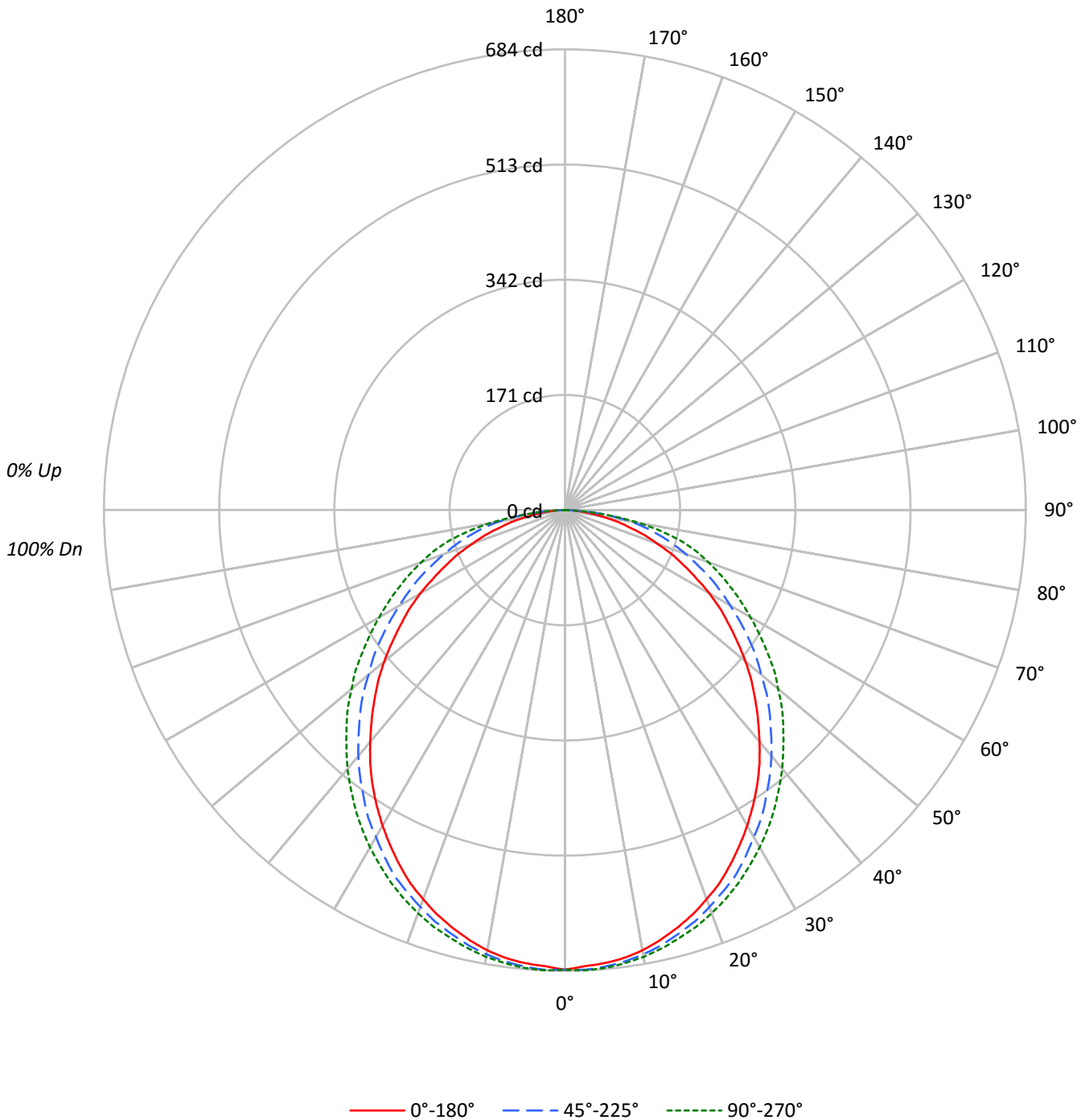
Input Watts (W): 16.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1836	1836	1836
5°	1824	1838	1843
10°	1813	1830	1840
15°	1789	1814	1831
20°	1760	1796	1824
25°	1725	1778	1812
30°	1681	1742	1797
35°	1634	1710	1780
40°	1579	1676	1763
45°	1521	1636	1744
50°	1465	1592	1729
55°	1396	1563	1717
60°	1334	1525	1711
65°	1244	1516	1731
70°	1146	1503	1782
75°	1035	1524	1875
80°	894	1570	1762
85°	741	1315	1315



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.5	3.4
10°-20°	183.6	9.6
20°-30°	274.7	14.4
30°-40°	325.4	17.1
40°-50°	331.6	17.4
50°-60°	297.2	15.6
60°-70°	232.7	12.2
70°-80°	150.0	7.9
80°-90°	44.3	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°	522.9	27.5
0°-40°	848.2	44.5
0°-60°	1477.0	77.6
0°-90°	1904.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1904.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	682	682	682	682	682	
5°	675	677	680	681	682	64
15°	642	646	651	656	657	181
25°	581	586	599	607	610	267
35°	498	504	521	537	542	311
45°	400	409	430	452	458	309
55°	298	307	333	356	366	267
65°	195	207	238	261	272	194
75°	100	115	147	172	180	107
85°	24	33	43	43	43	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	682.3	682.3	682.3	682.3	682.3
2.5°	677.8	679.6	683.2	684.0	684.0
5°	675.2	676.9	680.5	681.4	682.3
7.5°	670.7	671.6	676.0	677.8	678.7
10°	663.6	665.4	669.8	672.5	673.4
12.5°	653.8	656.5	661.8	665.4	666.3
15°	642.3	645.8	651.2	656.5	657.4
17.5°	629.8	633.4	640.5	646.7	648.5
20°	614.7	619.2	627.2	634.3	637.0
22.5°	599.6	603.2	613.0	621.9	624.5
25°	581.0	586.3	598.8	606.8	610.3
27.5°	561.4	567.7	580.1	590.8	594.3
30°	541.0	547.2	560.6	573.9	578.3
32.5°	519.7	526.8	542.8	556.1	560.6
35°	497.5	503.7	520.6	536.6	541.9
37.5°	474.4	479.7	499.3	516.1	521.5
40°	449.5	456.6	477.1	496.6	501.9
42.5°	424.6	432.6	453.1	474.4	479.7
45°	399.8	408.6	430.0	452.2	458.4
47.5°	375.8	382.9	406.9	428.2	437.1
50°	350.0	357.1	380.2	404.2	413.1
52.5°	323.4	333.1	358.0	381.1	391.8
55°	297.6	307.4	333.1	356.2	366.0
57.5°	273.6	281.6	308.3	332.2	342.0
60°	247.9	255.0	283.4	309.2	318.0
62.5°	220.3	231.0	260.3	284.3	294.9
65°	195.4	207.0	238.1	261.2	271.8
67.5°	172.3	183.0	213.2	238.1	249.6
70°	145.7	159.9	191.0	215.9	226.5
72.5°	124.4	136.8	168.8	193.7	205.2
75°	99.5	114.6	146.6	171.5	180.3
77.5°	79.1	94.2	124.4	143.9	148.4
80°	57.7	72.8	101.3	111.0	113.7
82.5°	39.1	53.3	72.8	75.5	76.4
85°	24.0	32.9	42.6	42.6	42.6
87.5°	11.5	13.3	15.1	14.2	14.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)