

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: P312909

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-S-CP187-W2A-U-5000K**

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: P312909
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-CP187-W2A-U-5000K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 5000K 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: 2035.0 lumens
Efficiency: N/A
Efficacy: 116.3 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

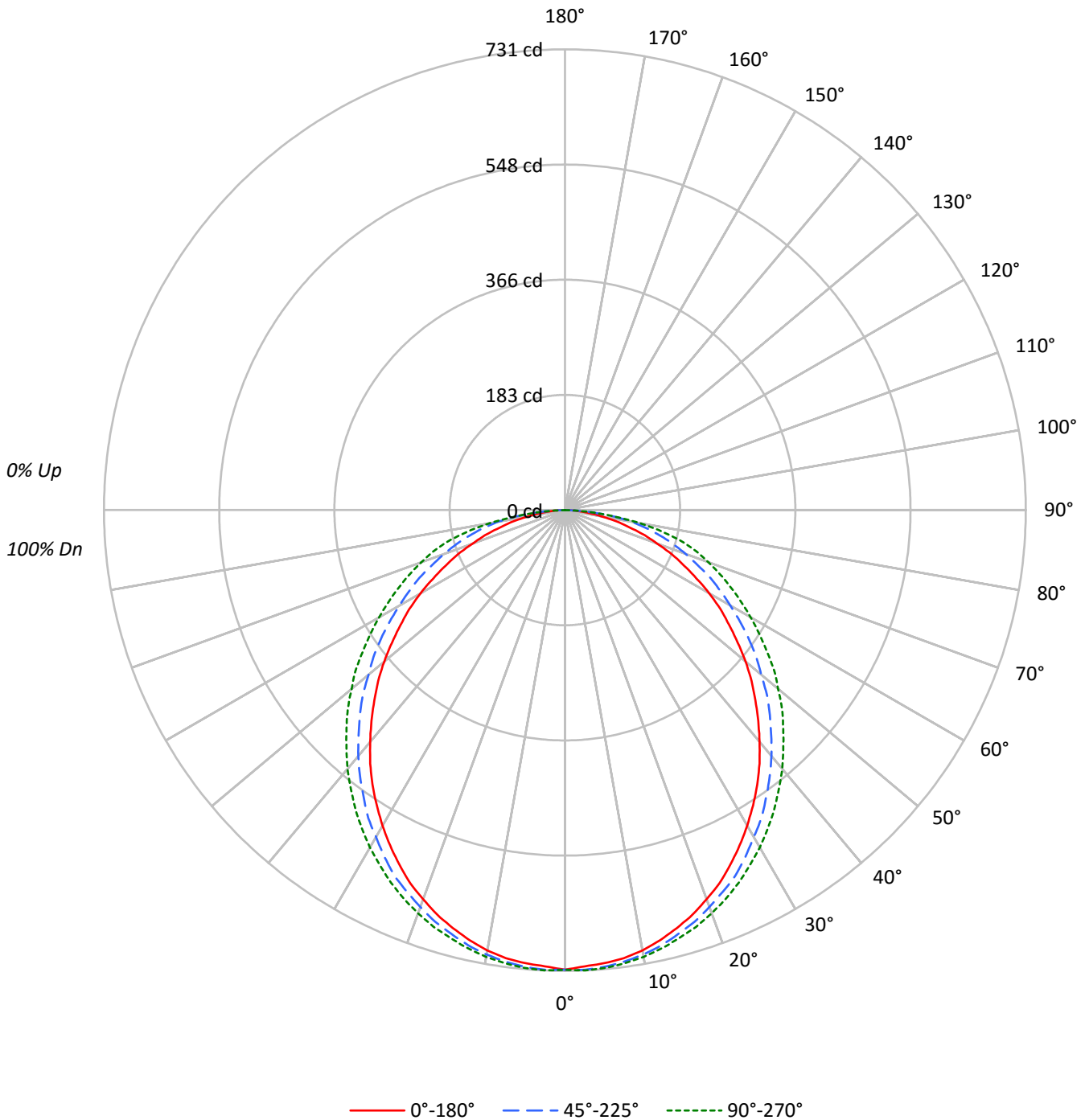
Input Watts (W): 17.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1962	1962	1962
5°	1949	1965	1970
10°	1938	1956	1967
15°	1913	1939	1957
20°	1881	1920	1950
25°	1844	1900	1937
30°	1797	1862	1921
35°	1747	1828	1903
40°	1688	1791	1885
45°	1626	1749	1864
50°	1566	1701	1848
55°	1492	1671	1835
60°	1426	1630	1829
65°	1330	1621	1850
70°	1225	1606	1905
75°	1105	1629	2004
80°	956	1677	1883
85°	790	1408	1408



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.0	3.4
10°-20°	196.2	9.6
20°-30°	293.6	14.4
30°-40°	347.7	17.1
40°-50°	354.4	17.4
50°-60°	317.6	15.6
60°-70°	248.7	12.2
70°-80°	160.3	7.9
80°-90°	47.4	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°	558.8	27.5
0°-40°	906.6	44.5
0°-60°	1578.6	77.6
0°-90°	2035.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2035.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	729	729	729	729	729	
5°	722	724	727	728	729	69
15°	686	690	696	702	703	194
25°	621	627	640	648	652	286
35°	532	538	556	574	579	332
45°	427	437	460	483	490	330
55°	318	328	356	381	391	285
65°	209	221	254	279	290	208
75°	106	122	157	183	193	114
85°	26	35	46	46	46	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	729.2	729.2	729.2	729.2	729.2
2.5°	724.5	726.4	730.2	731.1	731.1
5°	721.6	723.5	727.3	728.3	729.2
7.5°	716.9	717.8	722.6	724.5	725.4
10°	709.3	711.2	715.9	718.8	719.7
12.5°	698.8	701.7	707.4	711.2	712.1
15°	686.5	690.3	696.0	701.7	702.6
17.5°	673.2	677.0	684.6	691.2	693.1
20°	657.0	661.8	670.3	677.9	680.8
22.5°	640.9	644.7	655.1	664.6	667.5
25°	621.0	626.7	640.0	648.5	652.3
27.5°	600.1	606.7	620.0	631.4	635.2
30°	578.2	584.9	599.1	613.4	618.1
32.5°	555.4	563.0	580.1	594.4	599.1
35°	531.7	538.4	556.4	573.5	579.2
37.5°	507.0	512.7	533.6	551.7	557.3
40°	480.4	488.0	509.9	530.8	536.5
42.5°	453.9	462.4	484.2	507.0	512.7
45°	427.3	436.8	459.6	483.3	489.9
47.5°	401.6	409.2	434.9	457.7	467.1
50°	374.1	381.7	406.4	432.0	441.5
52.5°	345.6	356.1	382.6	407.3	418.7
55°	318.1	328.5	356.1	380.7	391.2
57.5°	292.4	301.0	329.5	355.1	365.6
60°	264.9	272.5	302.9	330.4	339.9
62.5°	235.5	246.9	278.2	303.8	315.2
65°	208.9	221.2	254.5	279.1	290.5
67.5°	184.2	195.6	227.9	254.5	266.8
70°	155.7	170.9	204.1	230.7	242.1
72.5°	132.9	146.2	180.4	207.0	219.3
75°	106.3	122.5	156.7	183.3	192.7
77.5°	84.5	100.6	132.9	153.8	158.6
80°	61.7	77.9	108.2	118.7	121.5
82.5°	41.8	57.0	77.9	80.7	81.7
85°	25.6	35.1	45.6	45.6	45.6
87.5°	12.3	14.2	16.1	15.2	15.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)