

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: P312891

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-S-CA08-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: P312891
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-CA08-W2A-U-3500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC 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: 2052.0 lumens
Efficiency: N/A
Efficacy: 122.9 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

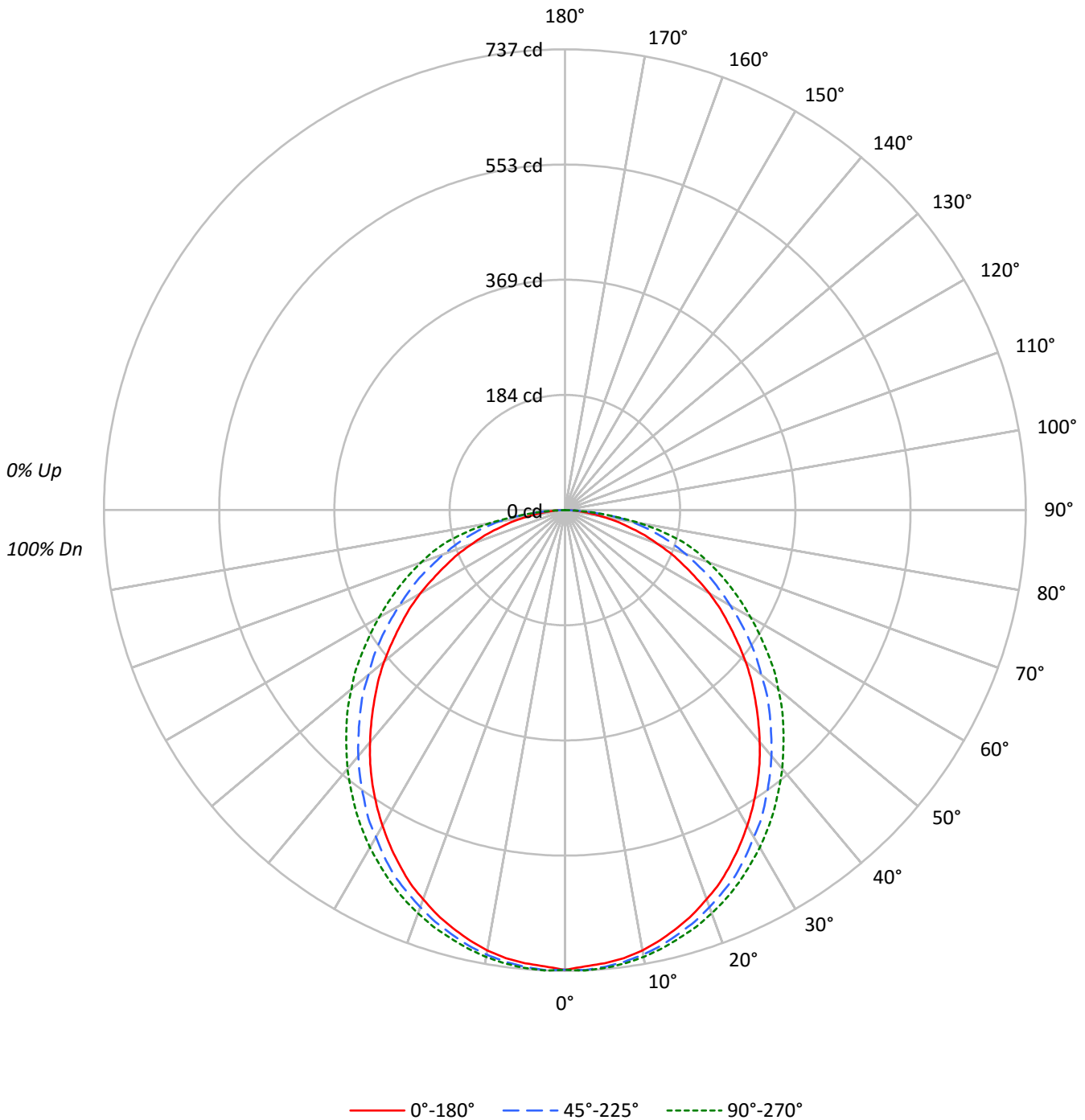
Input Watts (W): 16.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1979	1979	1979
5°	1965	1981	1986
10°	1954	1973	1983
15°	1928	1955	1974
20°	1897	1936	1966
25°	1859	1916	1953
30°	1812	1877	1937
35°	1761	1843	1918
40°	1702	1806	1900
45°	1639	1764	1880
50°	1579	1716	1864
55°	1505	1684	1851
60°	1438	1644	1845
65°	1341	1634	1866
70°	1235	1619	1921
75°	1115	1643	2021
80°	964	1691	1898
85°	800	1420	1420



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.5	3.4
10°-20°	197.9	9.6
20°-30°	296.1	14.4
30°-40°	350.6	17.1
40°-50°	357.3	17.4
50°-60°	320.3	15.6
60°-70°	250.8	12.2
70°-80°	161.7	7.9
80°-90°	47.8	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°	563.5	27.5
0°-40°	914.2	44.5
0°-60°	1591.8	77.6
0°-90°	2052.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2052.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	735	735	735	735	735	
5°	728	730	733	734	735	69
15°	692	696	702	708	708	195
25°	626	632	645	654	658	288
35°	536	543	561	578	584	335
45°	431	440	463	487	494	333
55°	321	331	359	384	394	288
65°	211	223	257	282	293	209
75°	107	124	158	185	194	115
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°	735.3	735.3	735.3	735.3	735.3
2.5°	730.5	732.4	736.3	737.2	737.2
5°	727.6	729.6	733.4	734.3	735.3
7.5°	722.8	723.8	728.6	730.5	731.5
10°	715.2	717.1	721.9	724.8	725.7
12.5°	704.7	707.5	713.3	717.1	718.1
15°	692.2	696.0	701.8	707.5	708.5
17.5°	678.8	682.6	690.3	697.0	698.9
20°	662.5	667.3	675.9	683.6	686.5
22.5°	646.3	650.1	660.6	670.2	673.1
25°	626.2	631.9	645.3	653.9	657.7
27.5°	605.1	611.8	625.2	636.7	640.5
30°	583.1	589.8	604.1	618.5	623.3
32.5°	560.1	567.7	585.0	599.3	604.1
35°	536.2	542.9	561.0	578.3	584.0
37.5°	511.3	517.0	538.1	556.3	562.0
40°	484.5	492.1	514.1	535.2	540.9
42.5°	457.6	466.3	488.3	511.3	517.0
45°	430.8	440.4	463.4	487.3	494.0
47.5°	405.0	412.6	438.5	461.5	471.0
50°	377.2	384.9	409.8	435.6	445.2
52.5°	348.5	359.0	385.8	410.7	422.2
55°	320.7	331.3	359.0	383.9	394.5
57.5°	294.9	303.5	332.2	358.1	368.6
60°	267.1	274.8	305.4	333.2	342.8
62.5°	237.4	248.9	280.5	306.4	317.9
65°	210.6	223.1	256.6	281.5	293.0
67.5°	185.7	197.2	229.8	256.6	269.0
70°	157.0	172.3	205.8	232.7	244.1
72.5°	134.0	147.4	181.9	208.7	221.2
75°	107.2	123.5	158.0	184.8	194.4
77.5°	85.2	101.5	134.0	155.1	159.9
80°	62.2	78.5	109.1	119.7	122.5
82.5°	42.1	57.4	78.5	81.4	82.3
85°	25.9	35.4	46.0	46.0	46.0
87.5°	12.4	14.4	16.3	15.3	15.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)