

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: P308989

Luminaire Tested: **22FCZ2-29HE-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: P308989
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: 22FCZ2-29HE-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: 2475.0 lumens
Efficiency: N/A
Efficacy: 110.0 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

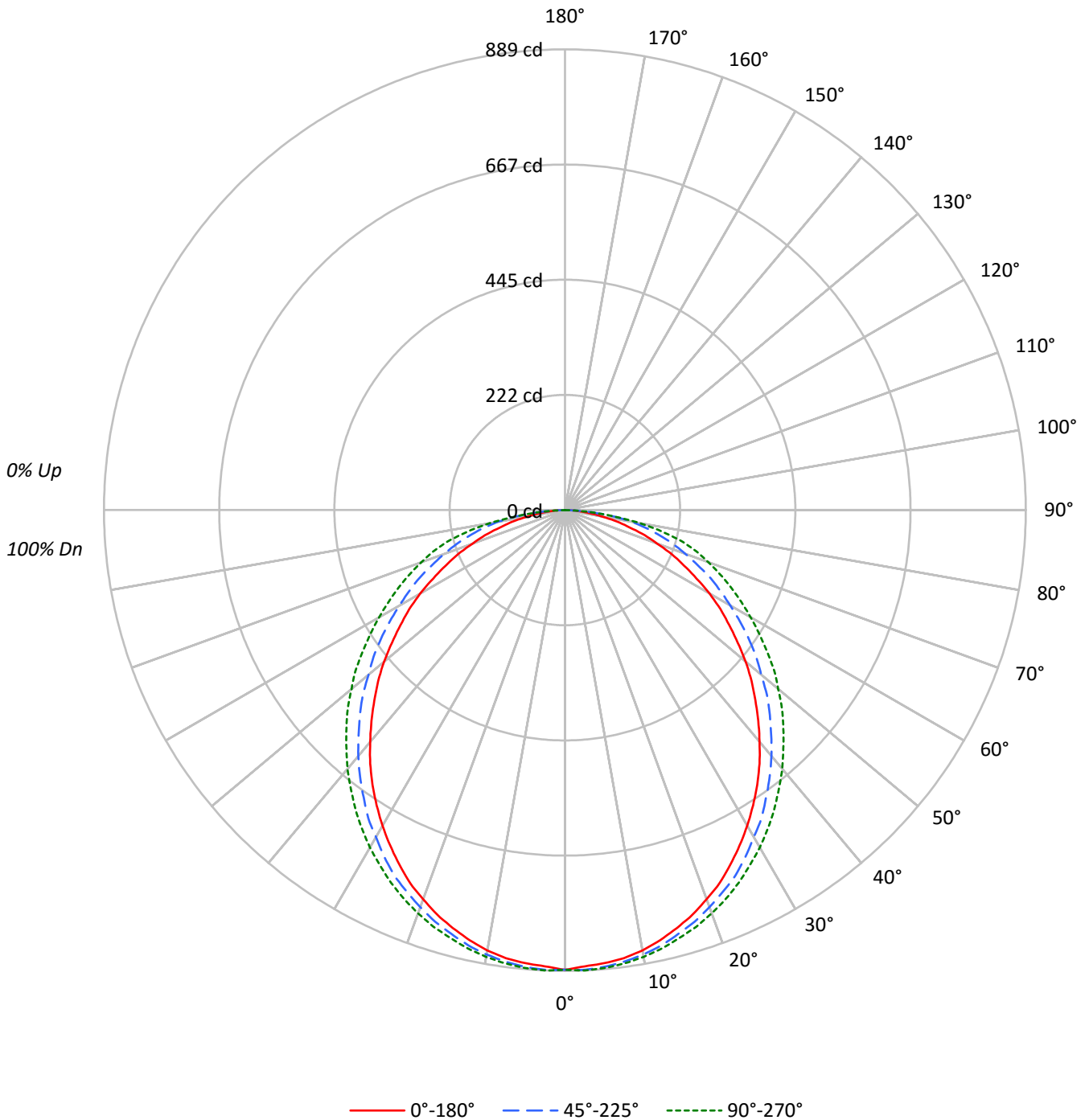
Input Watts (W): 22.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2387	2387	2387
5°	2371	2390	2396
10°	2357	2379	2392
15°	2326	2358	2381
20°	2288	2335	2371
25°	2242	2311	2355
30°	2185	2264	2336
35°	2124	2223	2314
40°	2053	2178	2292
45°	1978	2127	2268
50°	1905	2069	2248
55°	1815	2031	2232
60°	1734	1983	2225
65°	1618	1971	2250
70°	1490	1954	2317
75°	1344	1981	2437
80°	1164	2039	2290
85°	963	1711	1711



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.9	3.4
10°-20°	238.7	9.6
20°-30°	357.1	14.4
30°-40°	422.9	17.1
40°-50°	431.0	17.4
50°-60°	386.3	15.6
60°-70°	302.5	12.2
70°-80°	195.0	7.9
80°-90°	57.6	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°	679.7	27.5
0°-40°	1102.6	44.5
0°-60°	1919.9	77.6
0°-90°	2475.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2475.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	887	887	887	887	887	
5°	878	880	885	886	887	83
15°	835	840	846	853	854	235
25°	755	762	778	789	793	348
35°	647	655	677	698	704	404
45°	520	531	559	588	596	401
55°	387	400	433	463	476	347
65°	254	269	310	340	353	252
75°	129	149	190	223	234	139
85°	31	43	55	55	55	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	886.9	886.9	886.9	886.9	886.9
2.5°	881.1	883.4	888.0	889.2	889.2
5°	877.6	879.9	884.6	885.7	886.9
7.5°	871.9	873.0	878.8	881.1	882.3
10°	862.6	864.9	870.7	874.2	875.3
12.5°	849.9	853.4	860.3	864.9	866.1
15°	834.9	839.5	846.5	853.4	854.5
17.5°	818.7	823.4	832.6	840.7	843.0
20°	799.1	804.9	815.3	824.5	828.0
22.5°	779.5	784.1	796.8	808.3	811.8
25°	755.2	762.2	778.3	788.7	793.3
27.5°	729.8	737.9	754.1	767.9	772.5
30°	703.3	711.3	728.7	746.0	751.8
32.5°	675.5	684.8	705.6	722.9	728.7
35°	646.7	654.8	676.7	697.5	704.4
37.5°	616.7	623.6	649.0	670.9	677.9
40°	584.3	593.6	620.1	645.5	652.4
42.5°	552.0	562.4	588.9	616.7	623.6
45°	519.7	531.2	558.9	587.8	595.9
47.5°	488.5	497.7	528.9	556.6	568.2
50°	455.0	464.2	494.2	525.4	537.0
52.5°	420.3	433.0	465.4	495.4	509.3
55°	386.9	399.6	433.0	463.1	475.8
57.5°	355.7	366.1	400.7	431.9	444.6
60°	322.2	331.4	368.4	401.9	413.4
62.5°	286.4	300.2	338.4	369.5	383.4
65°	254.1	269.1	309.5	339.5	353.4
67.5°	224.0	237.9	277.1	309.5	324.5
70°	189.4	207.9	248.3	280.6	294.5
72.5°	161.7	177.8	219.4	251.7	266.8
75°	129.3	149.0	190.5	222.9	234.4
77.5°	102.8	122.4	161.7	187.1	192.8
80°	75.1	94.7	131.6	144.3	147.8
82.5°	50.8	69.3	94.7	98.2	99.3
85°	31.2	42.7	55.4	55.4	55.4
87.5°	15.0	17.3	19.6	18.5	18.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)