

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: P308988

Luminaire Tested: **22FCZ2-29HE-UNV-L82765-S-CP187-W2A-U-3000K**

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: P308988
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-3000K
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: 2392.0 lumens
Efficiency: N/A
Efficacy: 107.7 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

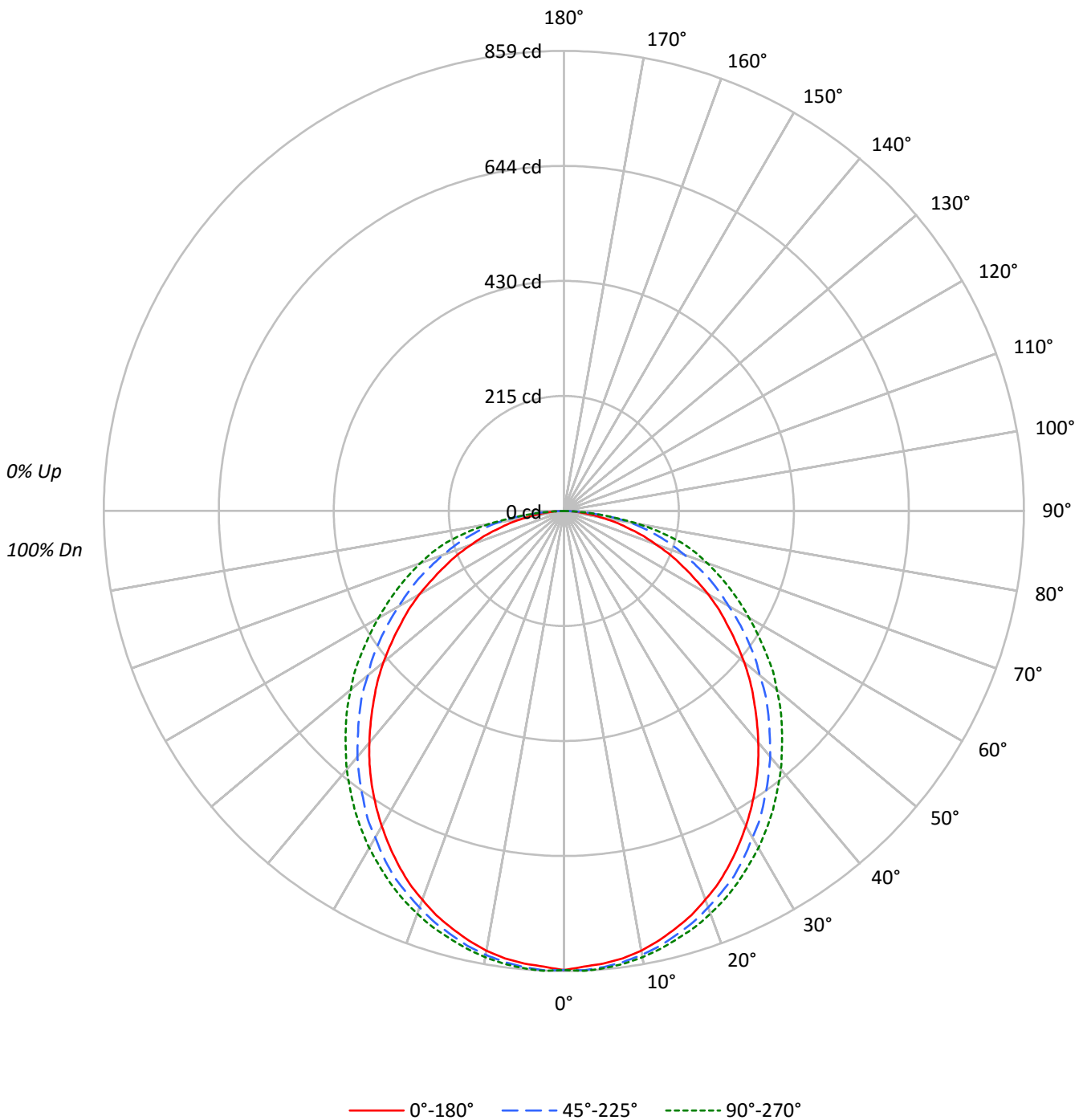
Input Watts (W): 22.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2306	2306	2306
5°	2291	2309	2315
10°	2278	2299	2312
15°	2248	2279	2301
20°	2212	2256	2292
25°	2167	2233	2276
30°	2112	2188	2258
35°	2053	2148	2236
40°	1984	2105	2215
45°	1911	2056	2192
50°	1841	2000	2173
55°	1754	1963	2157
60°	1676	1916	2150
65°	1563	1904	2174
70°	1440	1888	2239
75°	1300	1914	2356
80°	1124	1971	2214
85°	929	1655	1655



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.1	3.4
10°-20°	230.7	9.6
20°-30°	345.1	14.4
30°-40°	408.7	17.1
40°-50°	416.6	17.4
50°-60°	373.4	15.6
60°-70°	292.3	12.2
70°-80°	188.5	7.9
80°-90°	55.7	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°	656.9	27.5
0°-40°	1065.6	44.5
0°-60°	1855.5	77.6
0°-90°	2392.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2392.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	857	857	857	857	857	
5°	848	850	855	856	857	81
15°	807	811	818	825	826	227
25°	730	737	752	762	767	336
35°	625	633	654	674	681	391
45°	502	513	540	568	576	388
55°	374	386	418	448	460	335
65°	246	260	299	328	342	244
75°	125	144	184	215	227	134
85°	30	41	54	54	54	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	857.1	857.1	857.1	857.1	857.1
2.5°	851.5	853.8	858.2	859.4	859.4
5°	848.2	850.4	854.9	856.0	857.1
7.5°	842.6	843.7	849.3	851.5	852.7
10°	833.7	835.9	841.5	844.9	846.0
12.5°	821.4	824.8	831.5	835.9	837.0
15°	806.9	811.4	818.1	824.8	825.9
17.5°	791.3	795.7	804.7	812.5	814.7
20°	772.3	777.9	787.9	796.9	800.2
22.5°	753.3	757.8	770.1	781.2	784.6
25°	729.9	736.6	752.2	762.3	766.7
27.5°	705.3	713.2	728.8	742.2	746.6
30°	679.7	687.5	704.2	721.0	726.6
32.5°	652.9	661.8	681.9	698.6	704.2
35°	625.0	632.8	654.0	674.1	680.8
37.5°	596.0	602.7	627.2	648.4	655.1
40°	564.7	573.7	599.3	623.9	630.6
42.5°	533.5	543.5	569.2	596.0	602.7
45°	502.2	513.4	540.2	568.1	575.9
47.5°	472.1	481.0	511.2	537.9	549.1
50°	439.7	448.7	477.7	507.8	519.0
52.5°	406.2	418.5	449.8	478.8	492.2
55°	373.9	386.2	418.5	447.5	459.8
57.5°	343.7	353.8	387.3	417.4	429.7
60°	311.4	320.3	356.0	388.4	399.5
62.5°	276.8	290.2	327.0	357.1	370.5
65°	245.5	260.0	299.1	328.1	341.5
67.5°	216.5	229.9	267.9	299.1	313.6
70°	183.0	200.9	240.0	271.2	284.6
72.5°	156.2	171.9	212.0	243.3	257.8
75°	125.0	144.0	184.1	215.4	226.6
77.5°	99.3	118.3	156.2	180.8	186.4
80°	72.5	91.5	127.2	139.5	142.9
82.5°	49.1	67.0	91.5	94.9	96.0
85°	30.1	41.3	53.6	53.6	53.6
87.5°	14.5	16.7	19.0	17.9	17.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)