

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: P312957

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-S-CP187-W2A-U-4000K**

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: P312957
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-L83050-S-CP187-W2A-U-4000K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 4000K 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: 2660.0 lumens
Efficiency: N/A
Efficacy: 116.2 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

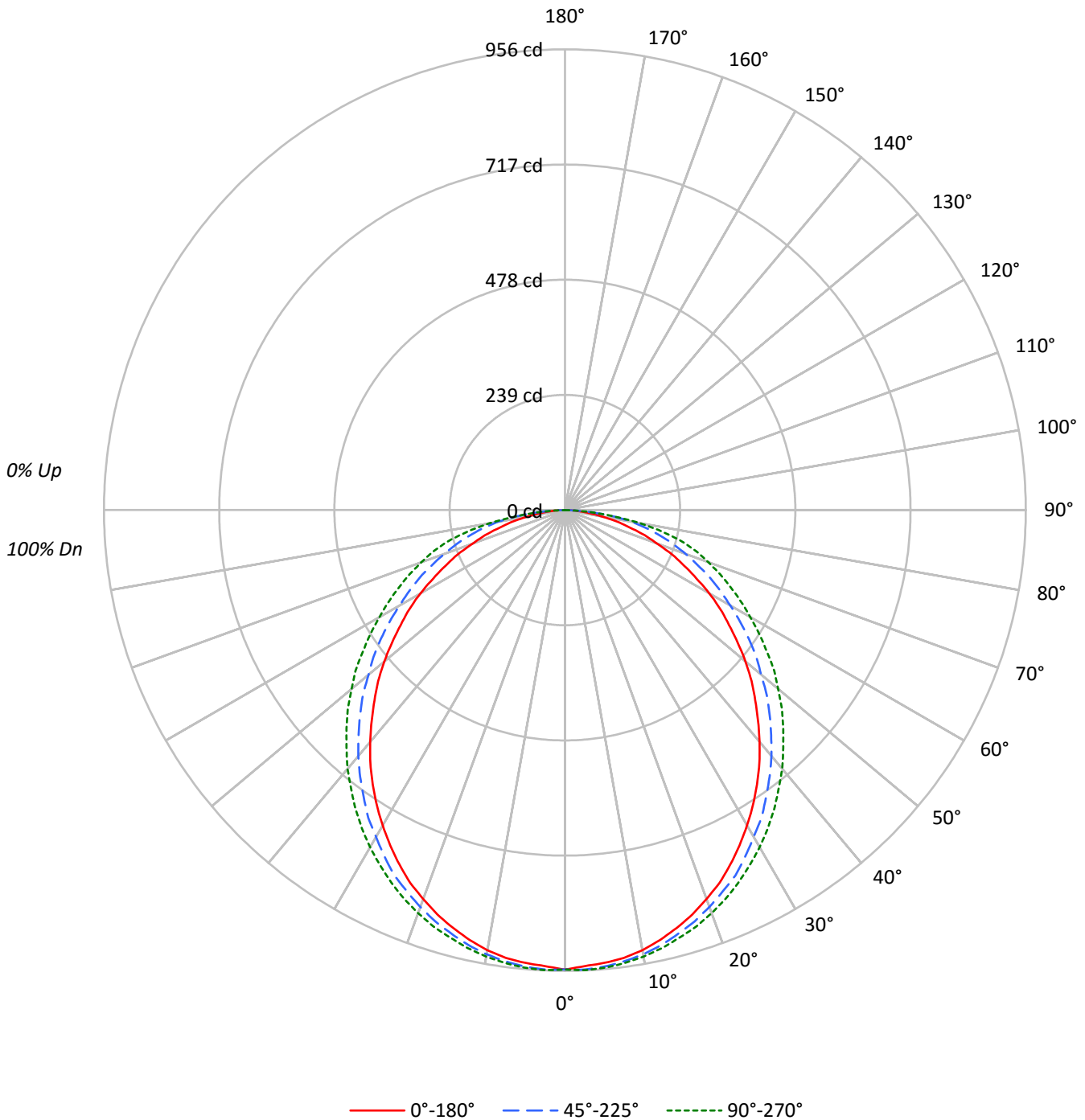
Input Watts (W): 22.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2565	2565	2565
5°	2548	2568	2575
10°	2533	2557	2570
15°	2500	2534	2559
20°	2459	2509	2548
25°	2410	2484	2532
30°	2348	2433	2511
35°	2283	2389	2487
40°	2206	2341	2463
45°	2125	2286	2437
50°	2047	2224	2416
55°	1951	2183	2399
60°	1864	2131	2391
65°	1738	2118	2418
70°	1601	2099	2490
75°	1445	2129	2619
80°	1251	2193	2462
85°	1034	1840	1840



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.1	3.4
10°-20°	256.5	9.6
20°-30°	383.8	14.4
30°-40°	454.5	17.1
40°-50°	463.2	17.4
50°-60°	415.2	15.6
60°-70°	325.1	12.2
70°-80°	209.6	7.9
80°-90°	61.9	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°	730.5	27.5
0°-40°	1185.0	44.5
0°-60°	2063.4	77.6
0°-90°	2660.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2660.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	953	953	953	953	953	
5°	943	946	951	952	953	90
15°	897	902	910	917	918	253
25°	812	819	836	848	853	374
35°	695	704	727	750	757	434
45°	558	571	601	632	640	431
55°	416	429	465	498	511	373
65°	273	289	333	365	380	271
75°	139	160	205	240	252	149
85°	34	46	60	60	60	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	953.2	953.2	953.2	953.2	953.2
2.5°	947.0	949.4	954.4	955.6	955.6
5°	943.2	945.7	950.7	951.9	953.2
7.5°	937.0	938.3	944.5	947.0	948.2
10°	927.1	929.6	935.8	939.5	940.7
12.5°	913.4	917.2	924.6	929.6	930.8
15°	897.3	902.3	909.7	917.2	918.4
17.5°	879.9	884.9	894.8	903.5	906.0
20°	858.8	865.0	876.2	886.1	889.9
22.5°	837.7	842.7	856.4	868.8	872.5
25°	811.7	819.1	836.5	847.7	852.6
27.5°	784.4	793.1	810.4	825.3	830.3
30°	755.8	764.5	783.1	801.7	808.0
32.5°	726.0	736.0	758.3	776.9	783.1
35°	695.0	703.7	727.3	749.6	757.1
37.5°	662.7	670.2	697.5	721.1	728.5
40°	628.0	637.9	666.5	693.8	701.2
42.5°	593.2	604.4	633.0	662.7	670.2
45°	558.5	570.9	600.7	631.7	640.4
47.5°	525.0	534.9	568.4	598.2	610.6
50°	489.0	498.9	531.2	564.7	577.1
52.5°	451.8	465.4	500.2	532.4	547.3
55°	415.8	429.4	465.4	497.7	511.3
57.5°	382.3	393.4	430.7	464.2	477.8
60°	346.3	356.2	395.9	431.9	444.3
62.5°	307.8	322.7	363.6	397.2	412.0
65°	273.0	289.2	332.6	364.9	379.8
67.5°	240.8	255.7	297.9	332.6	348.7
70°	203.5	223.4	266.8	301.6	316.5
72.5°	173.8	191.1	235.8	270.6	286.7
75°	139.0	160.1	204.8	239.5	251.9
77.5°	110.5	131.6	173.8	201.1	207.3
80°	80.7	101.8	141.5	155.1	158.9
82.5°	54.6	74.5	101.8	105.5	106.7
85°	33.5	45.9	59.6	59.6	59.6
87.5°	16.1	18.6	21.1	19.9	19.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)