

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: P312948

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-S-CA125-W2A-U-4500K**

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: P312948
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-CA125-W2A-U-4500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC SHEET
Light Source: (168) 4500K 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: 2860.0 lumens
Efficiency: N/A
Efficacy: 121.7 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

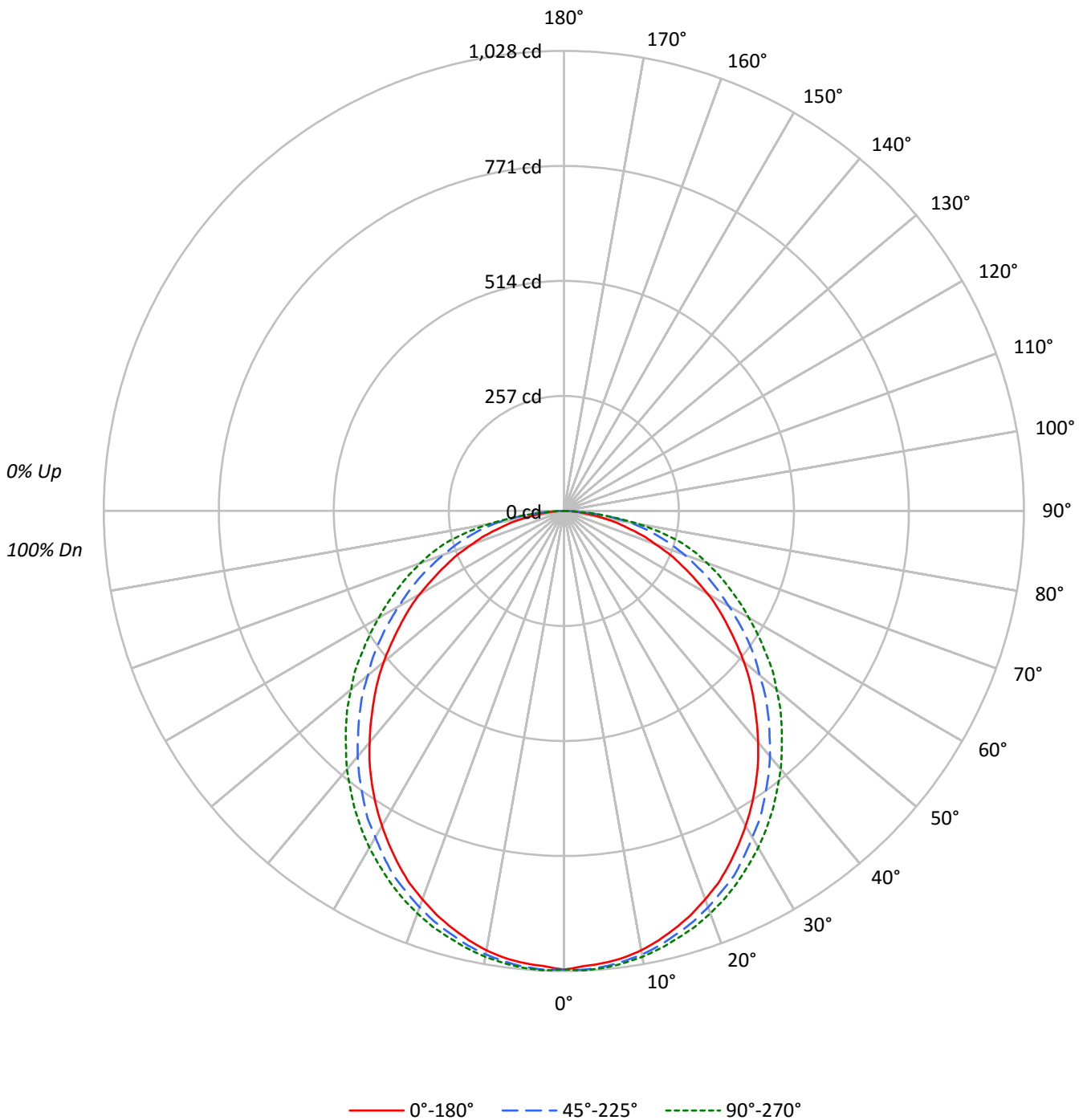
Input Watts (W): 23.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2758	2758	2758
5°	2740	2761	2768
10°	2724	2749	2764
15°	2688	2725	2751
20°	2644	2698	2740
25°	2591	2670	2722
30°	2525	2616	2699
35°	2455	2569	2674
40°	2372	2517	2648
45°	2285	2458	2621
50°	2201	2391	2598
55°	2097	2348	2579
60°	2004	2291	2571
65°	1869	2277	2600
70°	1721	2257	2677
75°	1554	2289	2817
80°	1344	2357	2647
85°	1112	1979	1979



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.9	3.4
10°-20°	275.8	9.6
20°-30°	412.7	14.4
30°-40°	488.7	17.1
40°-50°	498.1	17.4
50°-60°	446.4	15.6
60°-70°	349.5	12.2
70°-80°	225.4	7.9
80°-90°	66.6	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°	785.4	27.5
0°-40°	1274.1	44.5
0°-60°	2218.6	77.6
0°-90°	2860.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2860.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1025	1025	1025	1025	1025	
5°	1014	1017	1022	1024	1025	96
15°	965	970	978	986	988	272
25°	873	881	899	911	917	402
35°	747	757	782	806	814	467
45°	600	614	646	679	689	464
55°	447	462	500	535	550	401
65°	294	311	358	392	408	292
75°	150	172	220	258	271	160
85°	36	49	64	64	64	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1024.8	1024.8	1024.8	1024.8	1024.8
2.5°	1018.2	1020.8	1026.2	1027.5	1027.5
5°	1014.2	1016.8	1022.2	1023.5	1024.8
7.5°	1007.5	1008.8	1015.5	1018.2	1019.5
10°	996.8	999.5	1006.1	1010.1	1011.5
12.5°	982.1	986.1	994.1	999.5	1000.8
15°	964.8	970.1	978.1	986.1	987.5
17.5°	946.1	951.4	962.1	971.5	974.1
20°	923.4	930.1	942.1	952.8	956.8
22.5°	900.7	906.1	920.7	934.1	938.1
25°	872.7	880.7	899.4	911.4	916.7
27.5°	843.3	852.7	871.4	887.4	892.7
30°	812.7	822.0	842.0	862.0	868.7
32.5°	780.6	791.3	815.3	835.3	842.0
35°	747.3	756.6	782.0	806.0	814.0
37.5°	712.6	720.6	749.9	775.3	783.3
40°	675.2	685.9	716.6	745.9	753.9
42.5°	637.8	649.9	680.5	712.6	720.6
45°	600.5	613.8	645.9	679.2	688.6
47.5°	564.5	575.1	611.2	643.2	656.5
50°	525.8	536.4	571.1	607.2	620.5
52.5°	485.7	500.4	537.8	572.5	588.5
55°	447.0	461.7	500.4	535.1	549.8
57.5°	411.0	423.0	463.0	499.1	513.7
60°	372.3	383.0	425.7	464.4	477.7
62.5°	330.9	346.9	391.0	427.0	443.0
65°	293.6	310.9	357.6	392.3	408.3
67.5°	258.9	274.9	320.3	357.6	375.0
70°	218.8	240.2	286.9	324.3	340.3
72.5°	186.8	205.5	253.5	290.9	308.2
75°	149.5	172.1	220.2	257.5	270.9
77.5°	118.8	141.4	186.8	216.2	222.8
80°	86.7	109.4	152.1	166.8	170.8
82.5°	58.7	80.1	109.4	113.4	114.8
85°	36.0	49.4	64.1	64.1	64.1
87.5°	17.3	20.0	22.7	21.4	21.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)