

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: P312962

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-S-CP250-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: P312962
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-CP250-W2A-U-4000K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.250" 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: 2638.0 lumens
Efficiency: N/A
Efficacy: 115.2 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

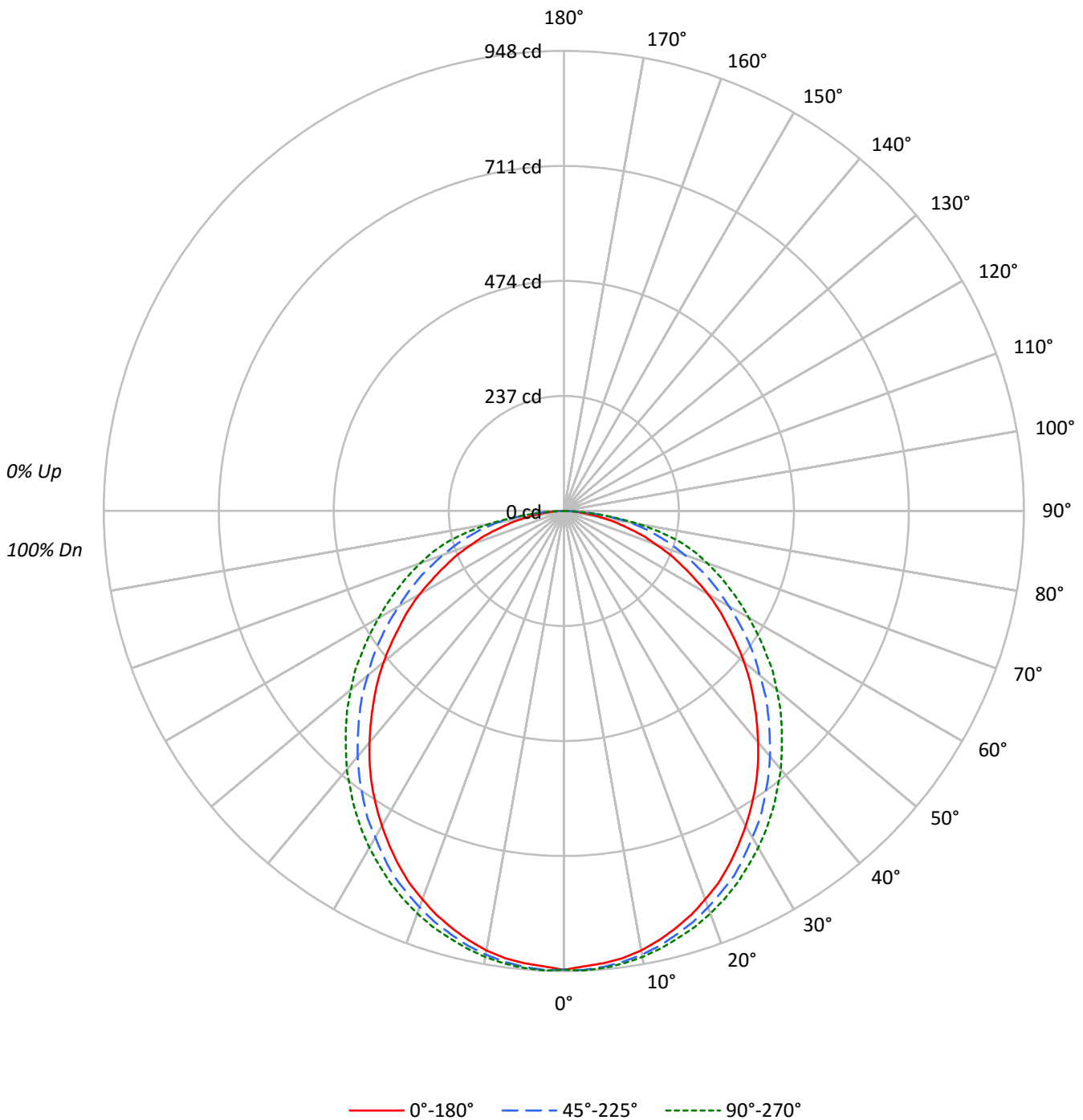
Input Watts (W): 22.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2544	2544	2544
5°	2527	2547	2553
10°	2512	2536	2549
15°	2479	2513	2537
20°	2439	2489	2527
25°	2390	2463	2511
30°	2329	2413	2490
35°	2264	2370	2466
40°	2188	2322	2443
45°	2108	2267	2417
50°	2030	2205	2396
55°	1934	2166	2379
60°	1848	2113	2371
65°	1724	2101	2398
70°	1589	2082	2470
75°	1434	2112	2598
80°	1240	2174	2441
85°	1025	1825	1825



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.4	3.4
10°-20°	254.4	9.6
20°-30°	380.6	14.4
30°-40°	450.8	17.1
40°-50°	459.4	17.4
50°-60°	411.7	15.6
60°-70°	322.4	12.2
70°-80°	207.9	7.9
80°-90°	61.4	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°	724.4	27.5
0°-40°	1175.2	44.5
0°-60°	2046.4	77.6
0°-90°	2638.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2638.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	945	945	945	945	945	
5°	935	938	943	944	945	89
15°	890	895	902	910	911	251
25°	805	812	830	841	846	371
35°	689	698	721	743	751	431
45°	554	566	596	626	635	428
55°	412	426	462	494	507	370
65°	271	287	330	362	377	269
75°	138	159	203	238	250	148
85°	33	46	59	59	59	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	945.3	945.3	945.3	945.3	945.3
2.5°	939.1	941.6	946.5	947.7	947.7
5°	935.4	937.9	942.8	944.0	945.3
7.5°	929.3	930.5	936.7	939.1	940.4
10°	919.4	921.9	928.0	931.7	933.0
12.5°	905.9	909.6	917.0	921.9	923.1
15°	889.9	894.8	902.2	909.6	910.8
17.5°	872.7	877.6	887.4	896.0	898.5
20°	851.7	857.9	869.0	878.8	882.5
22.5°	830.8	835.7	849.3	861.6	865.3
25°	805.0	812.3	829.6	840.7	845.6
27.5°	777.9	786.5	803.7	818.5	823.4
30°	749.6	758.2	776.7	795.1	801.3
32.5°	720.0	729.9	752.0	770.5	776.7
35°	689.3	697.9	721.3	743.4	750.8
37.5°	657.3	664.6	691.7	715.1	722.5
40°	622.8	632.6	661.0	688.0	695.4
42.5°	588.3	599.4	627.7	657.3	664.6
45°	553.9	566.2	595.7	626.5	635.1
47.5°	520.6	530.5	563.7	593.3	605.6
50°	484.9	494.8	526.8	560.0	572.3
52.5°	448.0	461.6	496.0	528.0	542.8
55°	412.3	425.9	461.6	493.6	507.1
57.5°	379.1	390.2	427.1	460.3	473.9
60°	343.4	353.2	392.6	428.3	440.6
62.5°	305.2	320.0	360.6	393.9	408.6
65°	270.8	286.8	329.9	361.9	376.6
67.5°	238.8	253.6	295.4	329.9	345.9
70°	201.9	221.5	264.6	299.1	313.9
72.5°	172.3	189.5	233.9	268.3	284.3
75°	137.9	158.8	203.1	237.6	249.9
77.5°	109.5	130.5	172.3	199.4	205.5
80°	80.0	100.9	140.3	153.9	157.5
82.5°	54.2	73.8	100.9	104.6	105.9
85°	33.2	45.5	59.1	59.1	59.1
87.5°	16.0	18.5	20.9	19.7	19.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)