

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: P312961

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-S-CP250-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: P312961
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-3500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (168) 3500K 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: 2513.0 lumens
Efficiency: N/A
Efficacy: 112.2 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

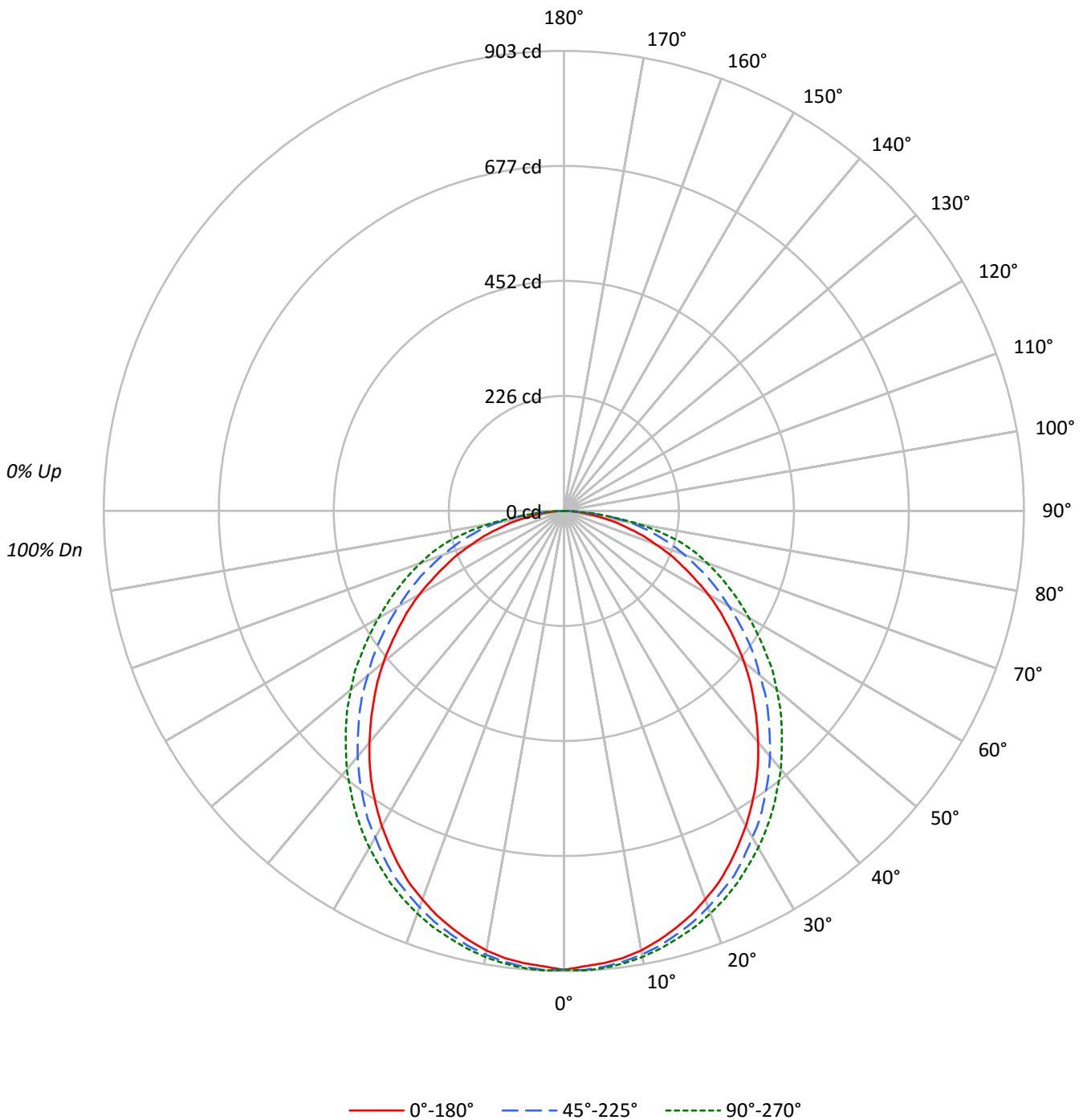
Input Watts (W): 22.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2423	2423	2423
5°	2407	2426	2432
10°	2393	2416	2429
15°	2362	2394	2417
20°	2324	2371	2407
25°	2277	2347	2392
30°	2219	2299	2372
35°	2157	2257	2349
40°	2084	2212	2327
45°	2008	2160	2302
50°	1934	2101	2282
55°	1843	2063	2267
60°	1760	2013	2259
65°	1643	2001	2285
70°	1513	1983	2353
75°	1365	2012	2475
80°	1181	2072	2326
85°	979	1738	1738



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.2	3.4
10°-20°	242.3	9.6
20°-30°	362.6	14.4
30°-40°	429.4	17.1
40°-50°	437.6	17.4
50°-60°	392.2	15.6
60°-70°	307.1	12.2
70°-80°	198.0	7.9
80°-90°	58.5	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°	690.1	27.5
0°-40°	1119.5	44.5
0°-60°	1949.4	77.6
0°-90°	2513.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2513.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	900	900	900	900	900	
5°	891	894	898	899	900	85
15°	848	852	859	866	868	239
25°	767	774	790	801	806	353
35°	657	665	687	708	715	410
45°	528	539	568	597	605	407
55°	393	406	440	470	483	352
65°	258	273	314	345	359	256
75°	131	151	194	226	238	141
85°	32	43	56	56	56	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	900.5	900.5	900.5	900.5	900.5
2.5°	894.6	897.0	901.7	902.8	902.8
5°	891.1	893.5	898.1	899.3	900.5
7.5°	885.2	886.4	892.3	894.6	895.8
10°	875.9	878.2	884.1	887.6	888.8
12.5°	863.0	866.5	873.5	878.2	879.4
15°	847.7	852.4	859.4	866.5	867.7
17.5°	831.3	836.0	845.4	853.6	855.9
20°	811.4	817.2	827.8	837.2	840.7
22.5°	791.4	796.1	809.0	820.8	824.3
25°	766.8	773.9	790.3	800.8	805.5
27.5°	741.0	749.2	765.6	779.7	784.4
30°	714.1	722.3	739.9	757.4	763.3
32.5°	685.9	695.3	716.4	734.0	739.9
35°	656.6	664.8	687.1	708.2	715.2
37.5°	626.1	633.2	658.9	681.2	688.3
40°	593.3	602.7	629.6	655.4	662.5
42.5°	560.5	571.0	598.0	626.1	633.2
45°	527.6	539.4	567.5	596.8	605.0
47.5°	496.0	505.4	537.0	565.1	576.9
50°	462.0	471.3	501.8	533.5	545.2
52.5°	426.8	439.7	472.5	503.0	517.1
55°	392.8	405.7	439.7	470.2	483.1
57.5°	361.1	371.7	406.9	438.5	451.4
60°	327.1	336.5	374.0	408.0	419.8
62.5°	290.8	304.9	343.5	375.2	389.3
65°	258.0	273.2	314.2	344.7	358.8
67.5°	227.5	241.5	281.4	314.2	329.5
70°	192.3	211.1	252.1	284.9	299.0
72.5°	164.2	180.6	222.8	255.6	270.8
75°	131.3	151.3	193.5	226.3	238.0
77.5°	104.4	124.3	164.2	189.9	195.8
80°	76.2	96.1	133.7	146.6	150.1
82.5°	51.6	70.4	96.1	99.7	100.8
85°	31.7	43.4	56.3	56.3	56.3
87.5°	15.2	17.6	19.9	18.8	18.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)