

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: P312812

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-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: P312812  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-33)  
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-CP250-W2A-U-4000K  
Description: 2'X2' TROFFER LED MODULE, RIBBED 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: 2502.0 lumens  
Efficiency: N/A  
Efficacy: 109.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

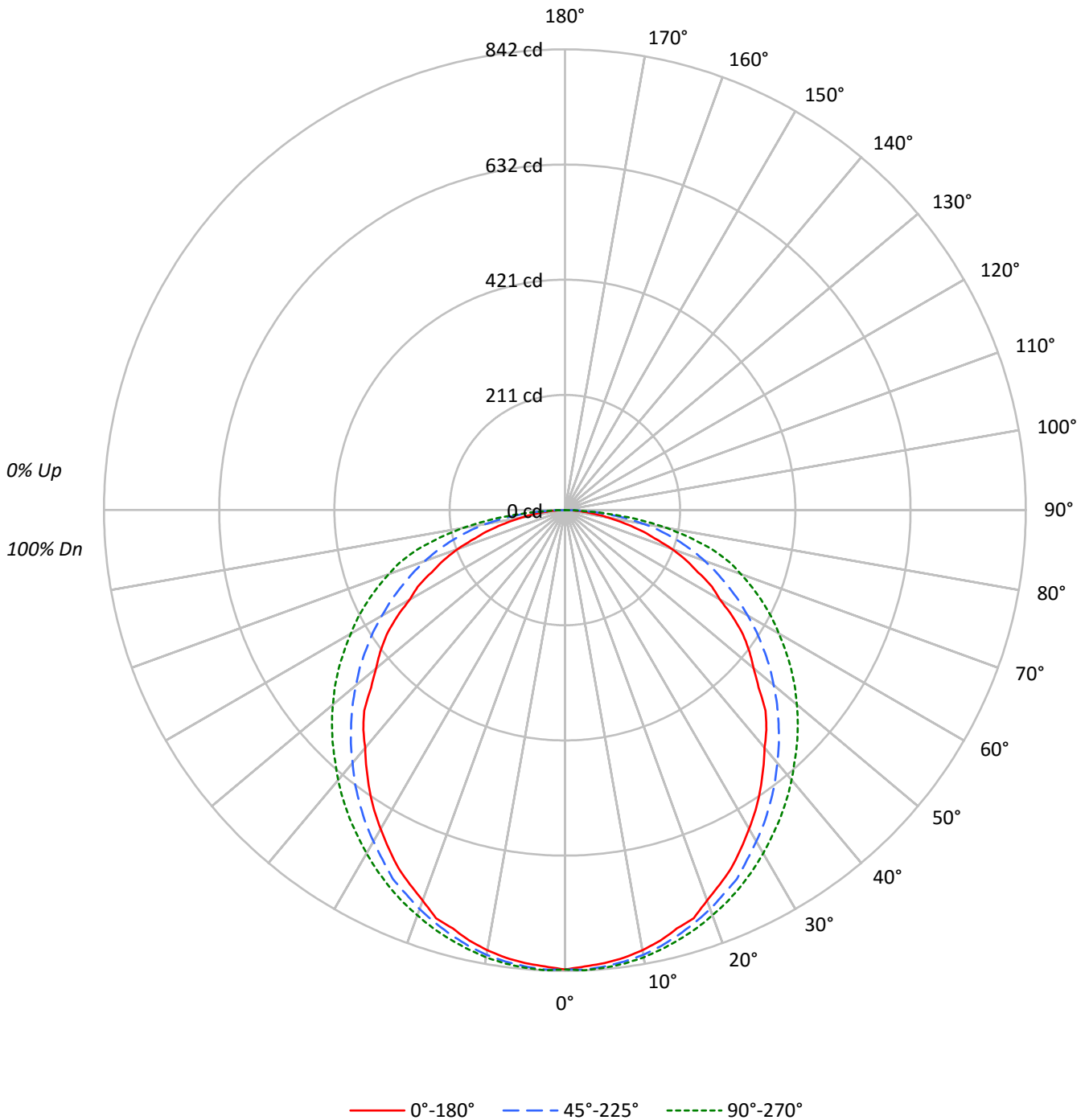
Input Watts (W): 22.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	93	90	92	89	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	51	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2259	2259	2259
5°	2245	2261	2267
10°	2232	2255	2268
15°	2205	2238	2262
20°	2174	2222	2257
25°	2140	2208	2254
30°	2091	2173	2251
35°	2046	2148	2254
40°	1994	2120	2263
45°	1973	2101	2283
50°	1885	2086	2316
55°	1865	2079	2365
60°	1759	2075	2430
65°	1708	2089	2539
70°	1640	2138	2695
75°	1494	2204	2901
80°	1280	2283	2932
85°	1034	2183	2513



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	79.4	3.2
10°-20°	226.6	9.1
20°-30°	341.0	13.6
30°-40°	409.3	16.4
40°-50°	427.8	17.1
50°-60°	398.7	15.9
60°-70°	327.0	13.1
70°-80°	220.3	8.8
80°-90°	71.8	2.9
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°	647.1	25.9
0°-40°	1056.4	42.2
0°-60°	1882.9	75.3
0°-90°	2502.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2502.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	839	839	839	839	839	
5°	831	834	837	838	839	79
15°	792	796	804	811	812	224
25°	721	726	744	754	759	331
35°	623	631	654	677	686	389
45°	518	522	552	586	600	396
55°	398	405	443	485	504	352
65°	268	280	328	376	399	267
75°	144	159	212	260	279	151
85°	34	48	71	83	81	40
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	839.4	839.4	839.4	839.4	839.4
2.5°	834.7	837.0	840.6	841.8	841.8
5°	831.1	833.5	837.0	838.2	839.4
7.5°	825.1	827.5	832.3	834.7	835.8
10°	816.7	819.1	825.1	828.7	829.9
12.5°	805.9	808.3	815.5	820.3	821.5
15°	791.5	796.3	803.5	810.7	811.9
17.5°	782.0	780.8	790.3	798.7	801.1
20°	759.2	765.2	776.0	785.6	788.0
22.5°	740.1	744.8	759.2	770.0	774.8
25°	720.9	725.7	743.6	754.4	759.2
27.5°	696.9	704.1	720.9	736.5	742.4
30°	673.0	680.2	699.3	717.3	724.5
32.5°	649.0	657.4	677.8	696.9	705.3
35°	622.7	631.1	653.8	676.6	686.2
37.5°	595.2	605.9	629.9	655.0	665.8
40°	567.6	578.4	603.5	632.3	644.3
42.5°	544.9	549.6	578.4	609.5	621.5
45°	518.5	522.1	552.0	585.6	599.9
47.5°	480.2	493.4	525.7	562.8	577.2
50°	450.3	464.6	498.2	537.7	553.2
52.5°	425.1	434.7	471.8	511.3	529.3
55°	397.6	404.8	443.1	485.0	504.1
57.5°	364.0	377.2	415.5	458.6	477.8
60°	326.9	343.7	385.6	432.3	451.5
62.5°	303.0	312.5	358.1	404.8	426.3
65°	268.2	280.2	328.1	376.0	398.8
67.5°	239.5	251.5	300.6	348.5	371.2
70°	208.4	220.3	271.8	319.7	342.5
72.5°	172.4	189.2	243.1	291.0	314.9
75°	143.7	159.3	212.0	259.9	279.0
77.5°	111.4	131.7	180.8	220.3	234.7
80°	82.6	103.0	147.3	176.0	189.2
82.5°	56.3	76.6	110.2	131.7	138.9
85°	33.5	47.9	70.7	82.6	81.4
87.5°	15.6	20.4	28.7	28.7	27.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)