

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: P312917

Luminaire Tested: **22FCZ2-24HE-UNV-L83050-S-CA08-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: P312917
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: 22FCZ2-24HE-UNV-L83050-S-CA08-W2A-U-4000K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC 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: 2431.0 lumens
Efficiency: N/A
Efficacy: 126.0 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

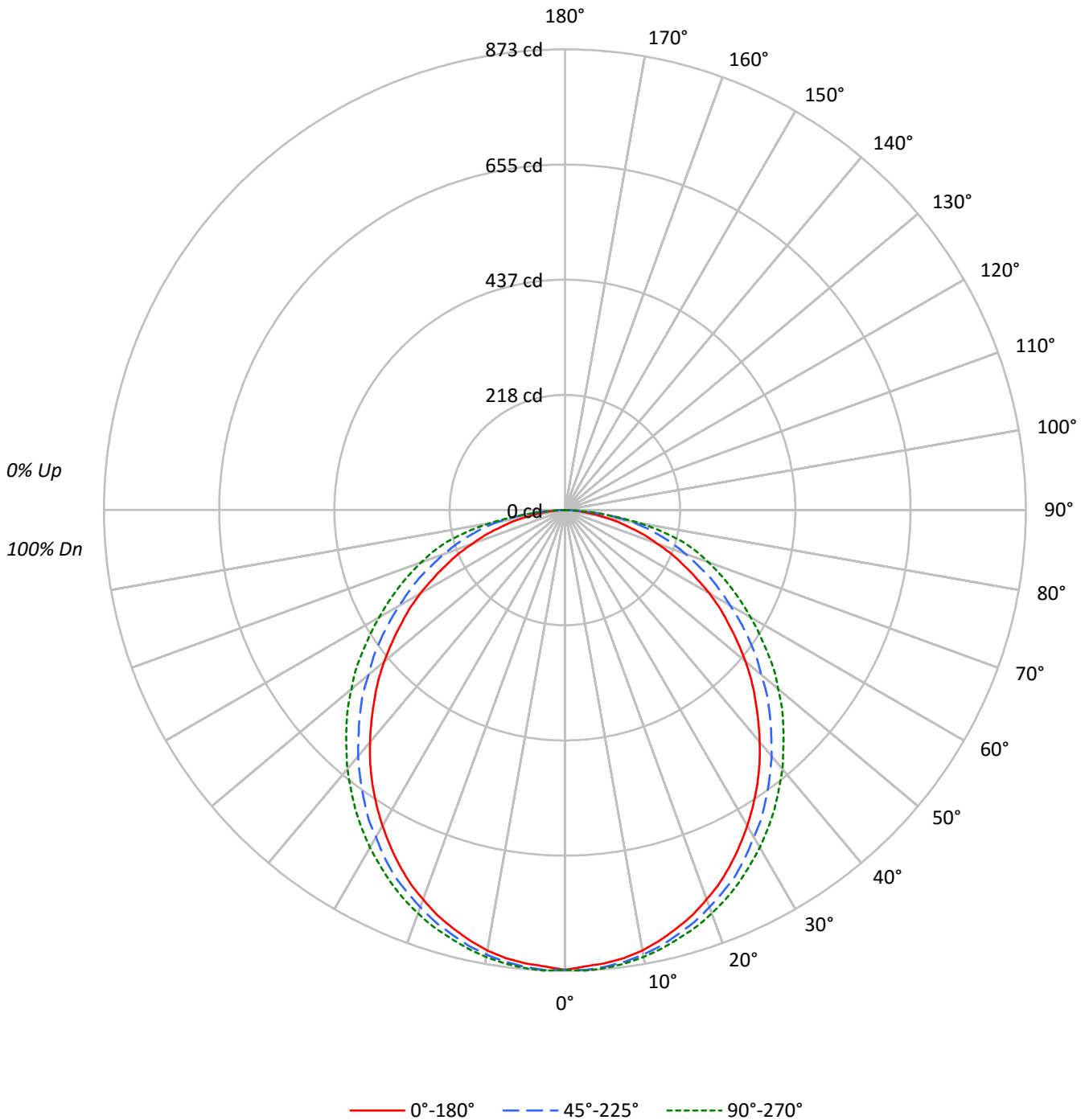
Input Watts (W): 19.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2344	2344	2344
5°	2328	2347	2353
10°	2315	2337	2349
15°	2285	2316	2338
20°	2248	2293	2329
25°	2203	2270	2314
30°	2147	2224	2294
35°	2087	2184	2273
40°	2016	2140	2251
45°	1942	2089	2227
50°	1871	2033	2208
55°	1783	1995	2192
60°	1703	1947	2186
65°	1589	1936	2210
70°	1463	1919	2275
75°	1320	1946	2394
80°	1142	2004	2250
85°	945	1680	1680



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.4	3.4
10°-20°	234.4	9.6
20°-30°	350.8	14.4
30°-40°	415.4	17.1
40°-50°	423.4	17.4
50°-60°	379.4	15.6
60°-70°	297.1	12.2
70°-80°	191.6	7.9
80°-90°	56.6	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°	667.6	27.5
0°-40°	1083.0	44.5
0°-60°	1885.8	77.6
0°-90°	2431.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2431.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	871	871	871	871	871	
5°	862	864	869	870	871	82
15°	820	825	831	838	839	231
25°	742	749	764	775	779	341
35°	635	643	665	685	692	397
45°	510	522	549	577	585	394
55°	380	392	425	455	467	341
65°	250	264	304	334	347	248
75°	127	146	187	219	230	136
85°	31	42	54	54	54	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	871.1	871.1	871.1	871.1	871.1
2.5°	865.4	867.7	872.2	873.4	873.4
5°	862.0	864.3	868.8	870.0	871.1
7.5°	856.4	857.5	863.2	865.4	866.6
10°	847.3	849.6	855.2	858.6	859.8
12.5°	834.8	838.2	845.0	849.6	850.7
15°	820.1	824.6	831.4	838.2	839.3
17.5°	804.2	808.7	817.8	825.7	828.0
20°	784.9	790.6	800.8	809.9	813.3
22.5°	765.6	770.2	782.6	794.0	797.4
25°	741.8	748.6	764.5	774.7	779.2
27.5°	716.8	724.8	740.7	754.3	758.8
30°	690.8	698.7	715.7	732.7	738.4
32.5°	663.5	672.6	693.0	710.0	715.7
35°	635.2	643.1	664.7	685.1	691.9
37.5°	605.7	612.5	637.4	659.0	665.8
40°	573.9	583.0	609.1	634.0	640.9
42.5°	542.2	552.4	578.5	605.7	612.5
45°	510.4	521.8	549.0	577.3	585.3
47.5°	479.8	488.9	519.5	546.7	558.1
50°	446.9	456.0	485.5	516.1	527.4
52.5°	412.9	425.3	457.1	486.6	500.2
55°	380.0	392.5	425.3	454.8	467.3
57.5°	349.3	359.6	393.6	424.2	436.7
60°	316.5	325.5	361.8	394.7	406.1
62.5°	281.3	294.9	332.3	363.0	376.6
65°	249.5	264.3	304.0	333.5	347.1
67.5°	220.0	233.7	272.2	304.0	318.7
70°	186.0	204.2	243.9	275.6	289.2
72.5°	158.8	174.7	215.5	247.3	262.0
75°	127.0	146.3	187.2	218.9	230.3
77.5°	100.9	120.2	158.8	183.7	189.4
80°	73.7	93.0	129.3	141.8	145.2
82.5°	49.9	68.1	93.0	96.4	97.5
85°	30.6	42.0	54.4	54.4	54.4
87.5°	14.7	17.0	19.3	18.1	18.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)