

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: P312919

Luminaire Tested: **22FCZ2-24HE-UNV-L83050-S-CA08-W2A-U-5000K**

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: P312919
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-5000K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 5000K 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: 2454.0 lumens
Efficiency: N/A
Efficacy: 123.9 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

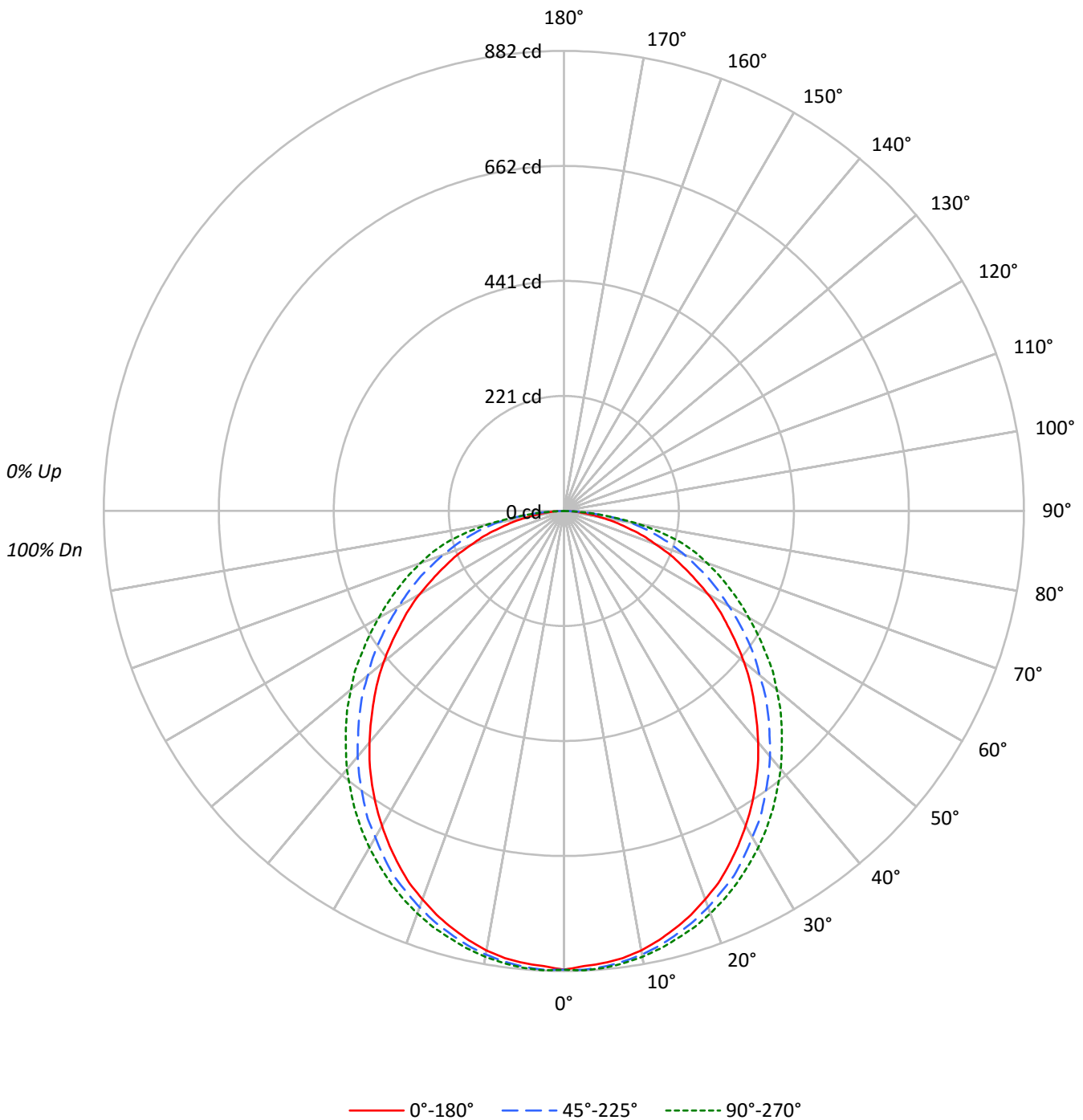
Input Watts (W): 19.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2366	2366	2366
5°	2351	2369	2375
10°	2337	2359	2372
15°	2306	2338	2360
20°	2269	2315	2351
25°	2223	2291	2336
30°	2167	2245	2316
35°	2106	2204	2294
40°	2035	2160	2272
45°	1961	2109	2248
50°	1888	2052	2229
55°	1800	2015	2213
60°	1719	1965	2206
65°	1604	1954	2231
70°	1478	1937	2297
75°	1333	1964	2416
80°	1153	2022	2272
85°	954	1698	1698



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.2	3.4
10°-20°	236.7	9.6
20°-30°	354.1	14.4
30°-40°	419.3	17.1
40°-50°	427.4	17.4
50°-60°	383.0	15.6
60°-70°	299.9	12.2
70°-80°	193.4	7.9
80°-90°	57.1	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°	673.9	27.5
0°-40°	1093.2	44.5
0°-60°	1903.6	77.6
0°-90°	2454.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2454.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	879	879	879	879	879	
5°	870	872	877	878	879	83
15°	828	832	839	846	847	233
25°	749	756	772	782	787	345
35°	641	649	671	692	698	401
45°	515	527	554	583	591	398
55°	384	396	429	459	472	344
65°	252	267	307	337	350	250
75°	128	148	189	221	232	137
85°	31	42	55	55	55	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	879.3	879.3	879.3	879.3	879.3
2.5°	873.6	875.9	880.5	881.6	881.6
5°	870.2	872.5	877.1	878.2	879.3
7.5°	864.5	865.6	871.3	873.6	874.8
10°	855.3	857.6	863.3	866.7	867.9
12.5°	842.7	846.1	853.0	857.6	858.7
15°	827.8	832.4	839.3	846.1	847.3
17.5°	811.8	816.4	825.5	833.5	835.8
20°	792.3	798.1	808.4	817.5	821.0
22.5°	772.9	777.4	790.0	801.5	804.9
25°	748.8	755.7	771.7	782.0	786.6
27.5°	723.6	731.6	747.7	761.4	766.0
30°	697.3	705.3	722.5	739.7	745.4
32.5°	669.8	679.0	699.6	716.8	722.5
35°	641.2	649.2	671.0	691.6	698.4
37.5°	611.4	618.3	643.5	665.2	672.1
40°	579.4	588.5	614.9	640.0	646.9
42.5°	547.3	557.6	583.9	611.4	618.3
45°	515.2	526.7	554.2	582.8	590.8
47.5°	484.3	493.5	524.4	551.9	563.3
50°	451.1	460.3	490.1	521.0	532.4
52.5°	416.8	429.4	461.4	491.2	504.9
55°	383.6	396.2	429.4	459.1	471.7
57.5°	352.7	363.0	397.3	428.2	440.8
60°	319.4	328.6	365.2	398.5	409.9
62.5°	284.0	297.7	335.5	366.4	380.1
65°	251.9	266.8	306.9	336.6	350.4
67.5°	222.1	235.9	274.8	306.9	321.7
70°	187.8	206.1	246.2	278.2	292.0
72.5°	160.3	176.3	217.5	249.6	264.5
75°	128.2	147.7	188.9	221.0	232.4
77.5°	101.9	121.4	160.3	185.5	191.2
80°	74.4	93.9	130.5	143.1	146.6
82.5°	50.4	68.7	93.9	97.3	98.5
85°	30.9	42.4	55.0	55.0	55.0
87.5°	14.9	17.2	19.5	18.3	18.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)