

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: P308694

Luminaire Tested: **22FCZ2-29HE-UNV-L82765-CA08-W2A-U-4500K**

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: P308694
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-L82765-CA08-W2A-U-4500K
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 3000K 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: 2608.0 lumens
Efficiency: N/A
Efficacy: 114.4 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

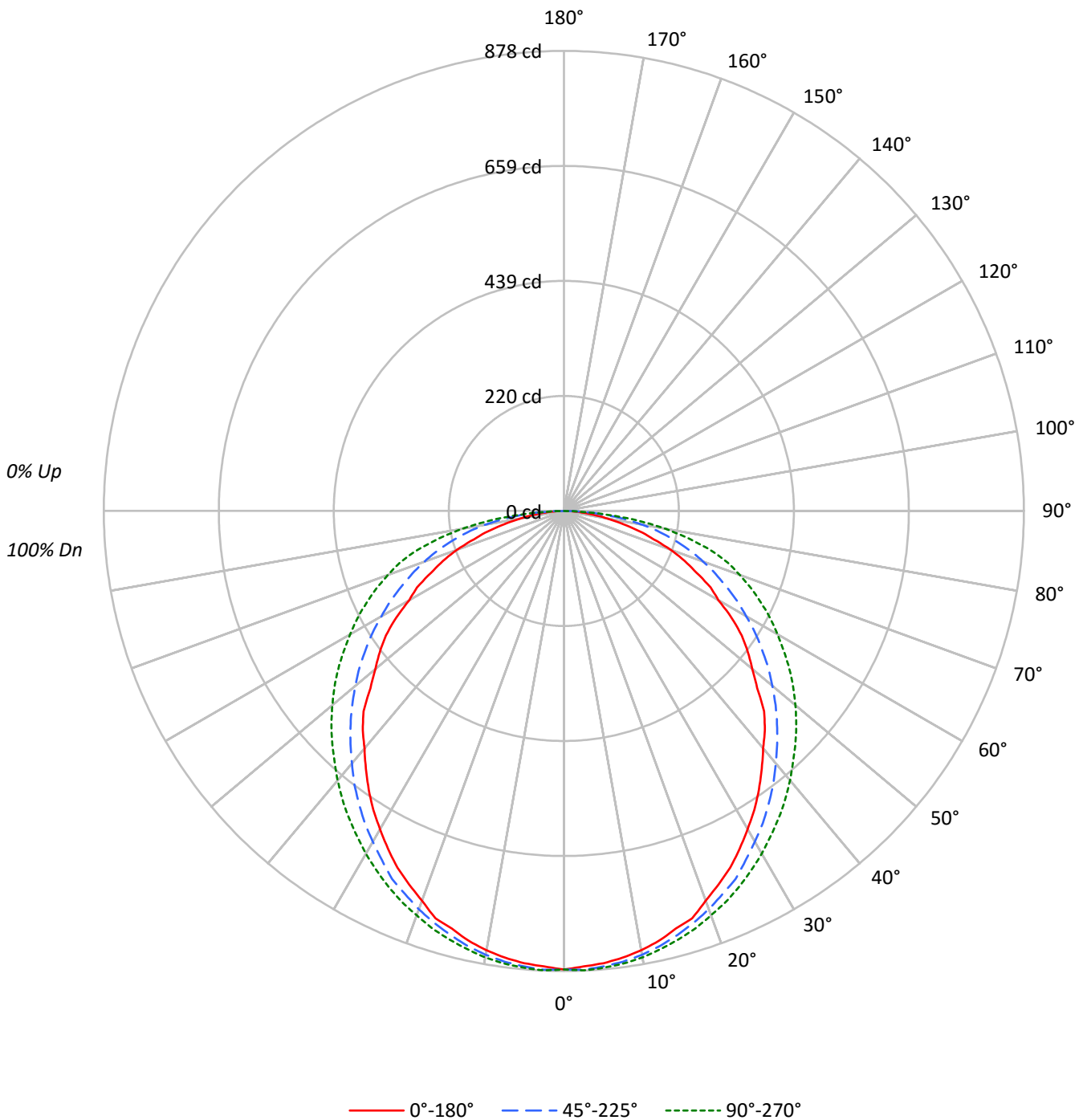
Input Watts (W): 22.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	2355	2355	2355
5°	2340	2357	2364
10°	2326	2350	2364
15°	2299	2333	2358
20°	2266	2316	2352
25°	2231	2301	2350
30°	2180	2265	2347
35°	2132	2239	2349
40°	2079	2210	2359
45°	2057	2190	2380
50°	1965	2174	2414
55°	1944	2167	2465
60°	1834	2163	2533
65°	1780	2178	2647
70°	1709	2229	2809
75°	1557	2297	3023
80°	1334	2379	3056
85°	1081	2272	2621



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.8	3.2
10°-20°	236.2	9.1
20°-30°	355.5	13.6
30°-40°	426.7	16.4
40°-50°	445.9	17.1
50°-60°	415.6	15.9
60°-70°	340.8	13.1
70°-80°	229.7	8.8
80°-90°	74.8	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°	674.5	25.9
0°-40°	1101.1	42.2
0°-60°	1962.7	75.3
0°-90°	2608.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2608.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	875	875	875	875	875	
5°	866	869	872	874	875	82
15°	825	830	838	845	846	233
25°	751	756	775	786	791	345
35°	649	658	682	705	715	406
45°	540	544	575	610	625	413
55°	414	422	462	506	526	367
65°	280	292	342	392	416	278
75°	150	166	221	271	291	157
85°	35	50	74	86	85	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	875.0	875.0	875.0	875.0	875.0
2.5°	870.0	872.5	876.3	877.5	877.5
5°	866.3	868.8	872.5	873.8	875.0
7.5°	860.0	862.5	867.5	870.0	871.3
10°	851.3	853.8	860.0	863.8	865.0
12.5°	840.1	842.6	850.0	855.0	856.3
15°	825.1	830.1	837.6	845.0	846.3
17.5°	815.1	813.8	823.8	832.6	835.1
20°	791.4	797.6	808.9	818.8	821.3
22.5°	771.4	776.4	791.4	802.6	807.6
25°	751.4	756.4	775.1	786.4	791.4
27.5°	726.5	734.0	751.4	767.7	773.9
30°	701.5	709.0	729.0	747.7	755.2
32.5°	676.5	685.3	706.5	726.5	735.2
35°	649.1	657.8	681.5	705.2	715.2
37.5°	620.4	631.6	656.6	682.8	694.0
40°	591.7	602.9	629.1	659.1	671.5
42.5°	567.9	572.9	602.9	635.3	647.8
45°	540.5	544.2	575.4	610.4	625.4
47.5°	500.5	514.3	548.0	586.7	601.6
50°	469.3	484.3	519.3	560.5	576.7
52.5°	443.1	453.1	491.8	533.0	551.7
55°	414.4	421.9	461.8	505.5	525.5
57.5°	379.5	393.2	433.1	478.1	498.0
60°	340.8	358.2	401.9	450.6	470.6
62.5°	315.8	325.8	373.2	421.9	444.4
65°	279.6	292.1	342.0	391.9	415.7
67.5°	249.6	262.1	313.3	363.2	386.9
70°	217.2	229.7	283.3	333.3	357.0
72.5°	179.7	197.2	253.4	303.3	328.3
75°	149.8	166.0	220.9	270.9	290.8
77.5°	116.1	137.3	188.5	229.7	244.7
80°	86.1	107.3	153.5	183.5	197.2
82.5°	58.7	79.9	114.8	137.3	144.8
85°	35.0	49.9	73.6	86.1	84.9
87.5°	16.2	21.2	30.0	30.0	28.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)