

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: P312792

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-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: P312792
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-CA08-W2A-U-4000K
Description: 2'X2' TROFFER LED MODULE, RIBBED 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: 2695.0 lumens
Efficiency: N/A
Efficacy: 117.7 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

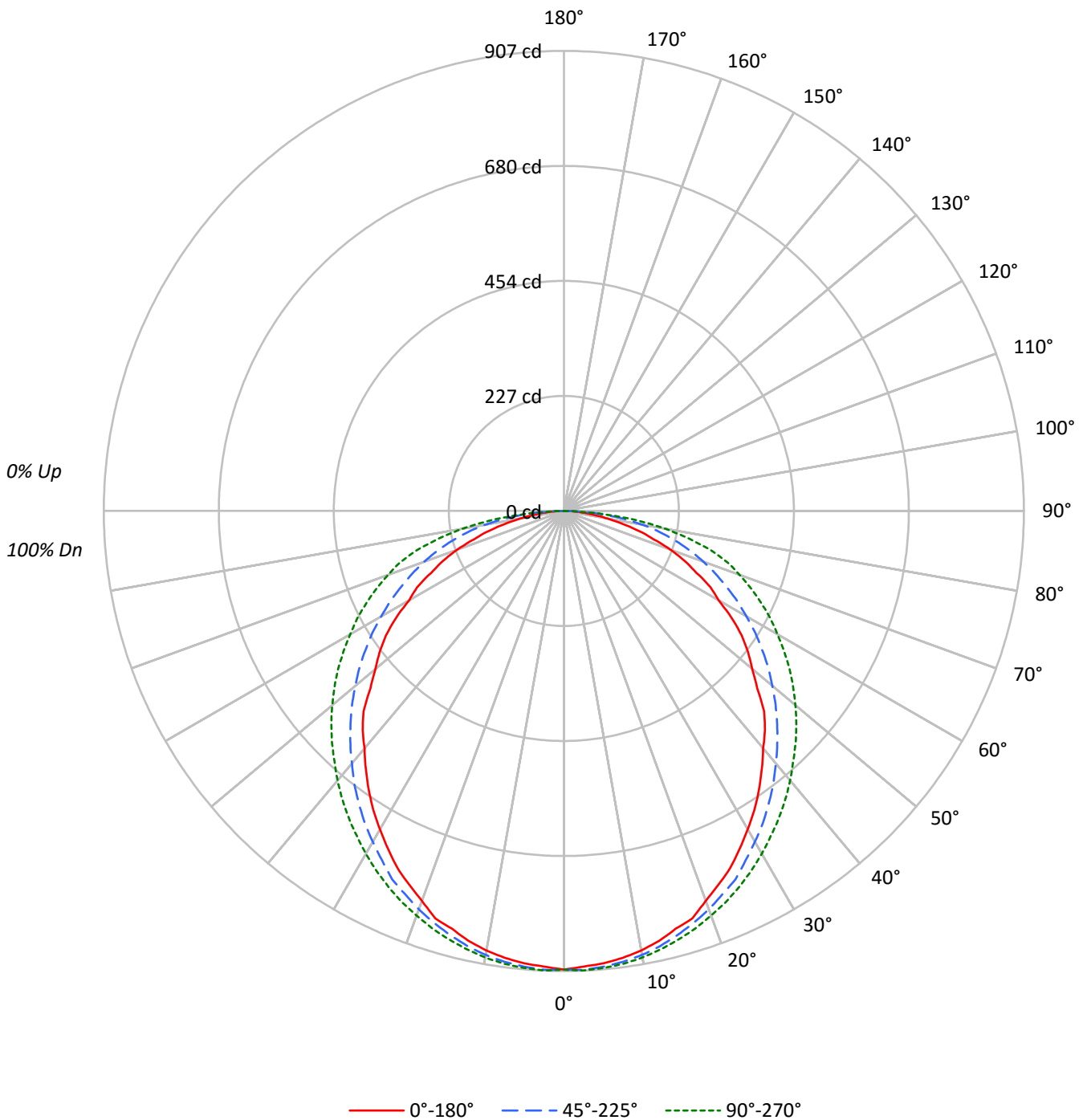
Input Watts (W): 22.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2433	2433	2433
5°	2418	2435	2442
10°	2404	2428	2443
15°	2375	2411	2436
20°	2342	2393	2430
25°	2306	2378	2428
30°	2252	2341	2425
35°	2203	2314	2428
40°	2148	2284	2438
45°	2125	2263	2459
50°	2030	2246	2495
55°	2009	2239	2548
60°	1895	2235	2617
65°	1840	2250	2735
70°	1766	2304	2902
75°	1609	2374	3124
80°	1379	2459	3158
85°	1115	2350	2708



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.6	3.2
10°-20°	244.1	9.1
20°-30°	367.3	13.6
30°-40°	440.9	16.4
40°-50°	460.8	17.1
50°-60°	429.4	15.9
60°-70°	352.2	13.1
70°-80°	237.3	8.8
80°-90°	77.3	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°	697.0	25.9
0°-40°	1137.9	42.2
0°-60°	2028.1	75.3
0°-90°	2695.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2695.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	904	904	904	904	904	
5°	895	898	902	903	904	85
15°	853	858	866	873	874	241
25°	776	782	801	813	818	357
35°	671	680	704	729	739	419
45°	558	562	595	631	646	427
55°	428	436	477	522	543	379
65°	289	302	353	405	430	287
75°	155	172	228	280	300	163
85°	36	52	76	89	88	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	904.2	904.2	904.2	904.2	904.2
2.5°	899.0	901.6	905.5	906.8	906.8
5°	895.2	897.7	901.6	902.9	904.2
7.5°	888.7	891.3	896.5	899.0	900.3
10°	879.7	882.3	888.7	892.6	893.9
12.5°	868.1	870.7	878.4	883.6	884.8
15°	852.6	857.8	865.5	873.2	874.5
17.5°	842.3	841.0	851.3	860.3	862.9
20°	817.8	824.2	835.8	846.2	848.7
22.5°	797.1	802.3	817.8	829.4	834.5
25°	776.5	781.7	801.0	812.6	817.8
27.5°	750.7	758.4	776.5	793.3	799.7
30°	724.9	732.6	753.3	772.6	780.4
32.5°	699.1	708.1	730.1	750.7	759.7
35°	670.7	679.8	704.3	728.8	739.1
37.5°	641.1	652.7	678.5	705.6	717.2
40°	611.4	623.0	650.1	681.0	693.9
42.5°	586.9	592.0	623.0	656.5	669.4
45°	558.5	562.4	594.6	630.7	646.2
47.5°	517.2	531.4	566.3	606.2	621.7
50°	485.0	500.5	536.6	579.1	595.9
52.5°	457.9	468.2	508.2	550.8	570.1
55°	428.2	436.0	477.3	522.4	543.0
57.5°	392.1	406.3	447.6	494.0	514.7
60°	352.1	370.2	415.3	465.6	486.3
62.5°	326.3	336.7	385.7	436.0	459.2
65°	288.9	301.8	353.4	405.0	429.5
67.5°	258.0	270.9	323.8	375.4	399.9
70°	224.4	237.3	292.8	344.4	368.9
72.5°	185.7	203.8	261.8	313.4	339.2
75°	154.8	171.6	228.3	279.9	300.5
77.5°	120.0	141.9	194.8	237.3	252.8
80°	89.0	110.9	158.7	189.6	203.8
82.5°	60.6	82.6	118.7	141.9	149.6
85°	36.1	51.6	76.1	89.0	87.7
87.5°	16.8	21.9	31.0	31.0	29.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)