

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: P312943

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-S-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: P312943
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: 22FCZ2-29HE-UNV-L83050-S-CA08-W2A-U-4500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 4500K 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: 2870.0 lumens
Efficiency: N/A
Efficacy: 122.1 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

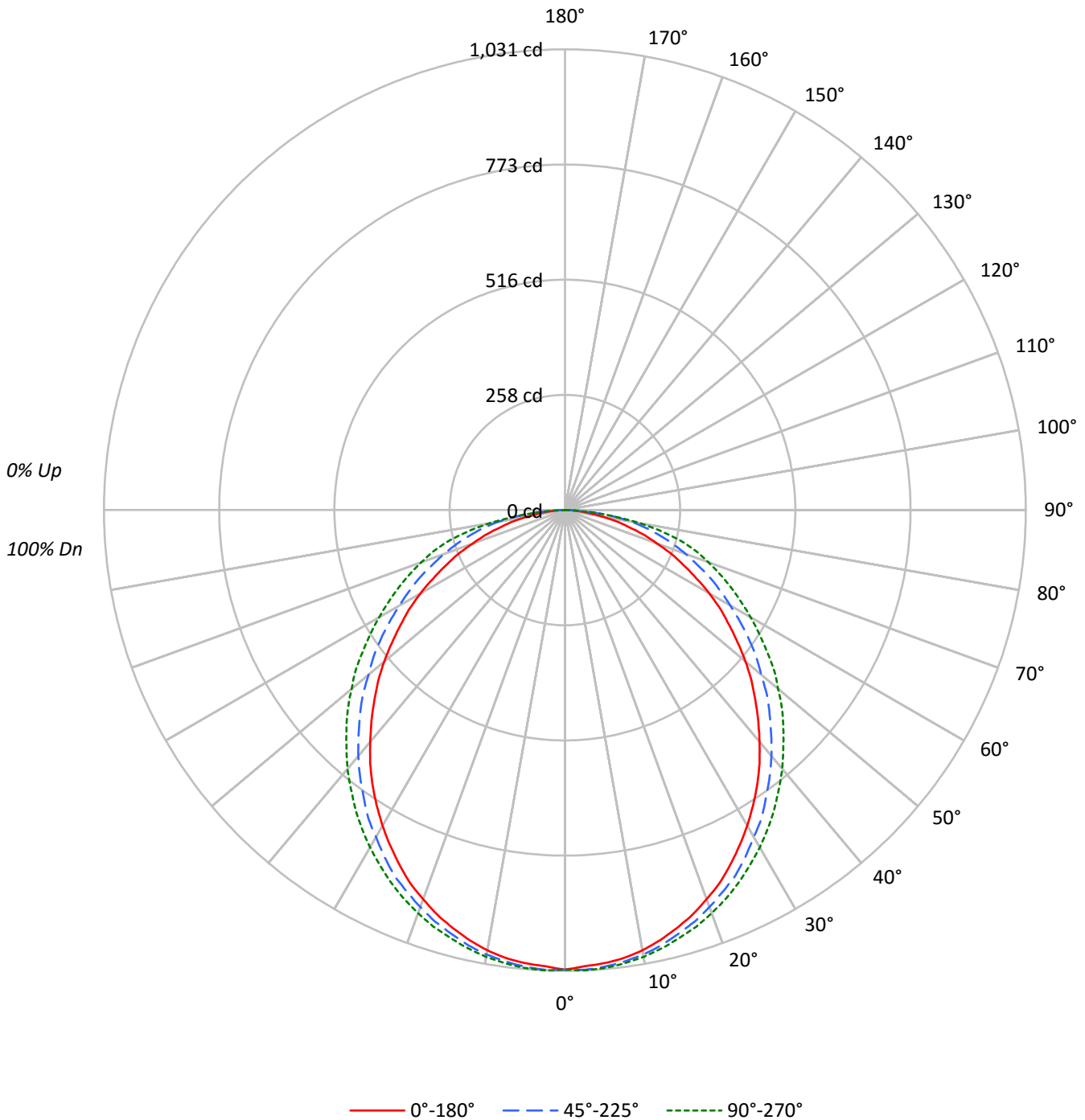
Input Watts (W): 23.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2767	2767	2767
5°	2749	2771	2778
10°	2733	2759	2773
15°	2697	2734	2761
20°	2653	2707	2749
25°	2600	2680	2731
30°	2534	2626	2709
35°	2463	2578	2683
40°	2380	2526	2658
45°	2293	2466	2630
50°	2209	2399	2607
55°	2105	2356	2588
60°	2011	2299	2580
65°	1876	2285	2609
70°	1728	2265	2687
75°	1560	2297	2826
80°	1348	2366	2656
85°	1118	1985	1985



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.3	3.4
10°-20°	276.8	9.6
20°-30°	414.1	14.4
30°-40°	490.4	17.1
40°-50°	499.8	17.4
50°-60°	448.0	15.6
60°-70°	350.7	12.2
70°-80°	226.1	7.9
80°-90°	66.8	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°	788.1	27.5
0°-40°	1278.6	44.5
0°-60°	2226.3	77.6
0°-90°	2870.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2870.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1028	1028	1028	1028	1028	
5°	1018	1020	1026	1027	1028	97
15°	968	974	982	990	991	273
25°	876	884	902	915	920	403
35°	750	759	785	809	817	469
45°	603	616	648	682	691	465
55°	449	463	502	537	552	402
65°	295	312	359	394	410	293
75°	150	173	221	258	272	161
85°	36	50	64	64	64	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1028.4	1028.4	1028.4	1028.4	1028.4
2.5°	1021.7	1024.4	1029.7	1031.1	1031.1
5°	1017.7	1020.4	1025.7	1027.1	1028.4
7.5°	1011.0	1012.3	1019.0	1021.7	1023.1
10°	1000.3	1003.0	1009.7	1013.7	1015.0
12.5°	985.6	989.6	997.6	1003.0	1004.3
15°	968.2	973.5	981.5	989.6	990.9
17.5°	949.4	954.8	965.5	974.8	977.5
20°	926.6	933.3	945.4	956.1	960.1
22.5°	903.9	909.2	924.0	937.4	941.4
25°	875.8	883.8	902.5	914.6	919.9
27.5°	846.3	855.7	874.4	890.5	895.8
30°	815.5	824.9	845.0	865.0	871.7
32.5°	783.4	794.1	818.2	838.3	845.0
35°	749.9	759.3	784.7	808.8	816.8
37.5°	715.1	723.1	752.6	778.0	786.0
40°	677.6	688.3	719.1	748.5	756.6
42.5°	640.1	652.1	682.9	715.1	723.1
45°	602.6	616.0	648.1	681.6	691.0
47.5°	566.4	577.1	613.3	645.4	658.8
50°	527.6	538.3	573.1	609.3	622.7
52.5°	487.4	502.2	539.6	574.5	590.5
55°	448.6	463.3	502.2	537.0	551.7
57.5°	412.4	424.5	464.7	500.8	515.5
60°	373.6	384.3	427.2	466.0	479.4
62.5°	332.1	348.2	392.3	428.5	444.6
65°	294.6	312.0	358.9	393.7	409.8
67.5°	259.8	275.8	321.4	358.9	376.3
70°	219.6	241.0	287.9	325.4	341.5
72.5°	187.5	206.2	254.4	291.9	309.3
75°	150.0	172.7	220.9	258.4	271.8
77.5°	119.2	141.9	187.5	216.9	223.6
80°	87.0	109.8	152.7	167.4	171.4
82.5°	58.9	80.3	109.8	113.8	115.2
85°	36.2	49.5	64.3	64.3	64.3
87.5°	17.4	20.1	22.8	21.4	21.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)