

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: P312643

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-RDP-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: P312643
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-24)
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-RDP-CA08-W2A-U-4500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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: 1821.0 lumens
Efficiency: N/A
Efficacy: 77.5 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

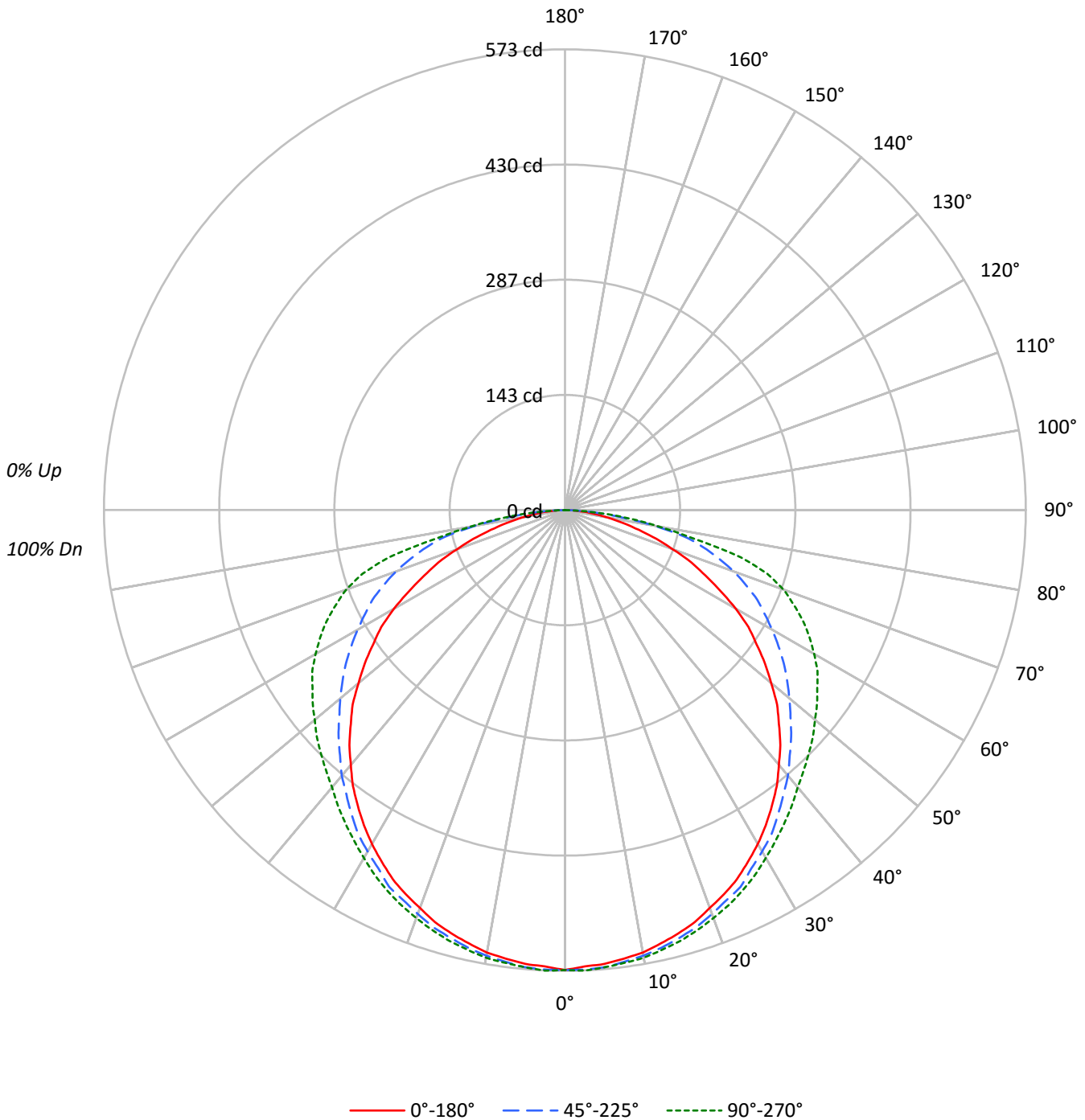
Input Watts (W): 23.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	82
2	97	88	81	75	95	86	80	74	83	77	72	80	75	71	76	72	69	67
3	88	77	68	61	86	75	67	61	72	65	60	70	64	59	67	62	58	55
4	80	68	59	51	78	66	58	51	64	56	50	61	55	50	59	54	49	47
5	74	60	51	44	72	59	50	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	44	38	51	43	38	50	43	37	48	42	37	35
7	63	49	40	33	61	48	39	33	47	39	33	45	38	33	44	37	33	31
8	59	45	36	30	57	44	35	30	43	35	29	41	34	29	40	34	29	27
9	55	41	32	27	53	40	32	27	39	32	26	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1539	1539	1539
5°	1531	1542	1542
10°	1526	1537	1545
15°	1519	1534	1545
20°	1508	1531	1546
25°	1504	1535	1551
30°	1490	1523	1553
35°	1474	1518	1562
40°	1454	1515	1581
45°	1432	1514	1631
50°	1402	1526	1699
55°	1364	1559	1797
60°	1319	1601	1925
65°	1228	1680	2082
70°	1127	1760	2277
75°	989	1853	2354
80°	851	1765	1847
85°	744	1281	1405



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.1	3.0
10°-20°	155.4	8.5
20°-30°	237.0	13.0
30°-40°	289.4	15.9
40°-50°	309.5	17.0
50°-60°	298.7	16.4
60°-70°	257.1	14.1
70°-80°	174.0	9.6
80°-90°	45.9	2.5
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°	446.5	24.5
0°-40°	735.9	40.4
0°-60°	1344.0	73.8
0°-90°	1821.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1821.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	572	572	572	572	572	
5°	567	568	571	571	571	54
15°	545	547	551	553	555	154
25°	506	509	517	520	522	233
35°	449	453	462	472	476	281
45°	376	383	398	418	429	291
55°	291	300	332	366	383	260
65°	193	212	264	305	327	192
75°	95	126	178	214	226	102
85°	24	34	42	43	46	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	572.0	572.0	572.0	572.0	572.0
2.5°	568.0	569.3	572.0	572.0	573.3
5°	566.6	568.0	570.7	570.7	570.7
7.5°	562.6	564.0	566.6	568.0	568.0
10°	558.6	560.0	562.6	564.0	565.3
12.5°	551.9	553.3	557.3	560.0	560.0
15°	545.2	546.6	550.6	553.3	554.6
17.5°	537.2	539.9	543.9	546.6	547.9
20°	526.5	529.1	534.5	538.5	539.9
22.5°	517.1	519.8	525.1	529.1	531.8
25°	506.4	509.0	517.1	519.8	522.4
27.5°	493.0	495.7	502.3	507.7	511.7
30°	479.6	482.3	490.3	497.0	499.7
32.5°	464.8	468.9	478.2	483.6	487.6
35°	448.8	452.8	462.2	471.5	475.6
37.5°	432.7	436.7	446.1	458.1	463.5
40°	413.9	419.3	431.4	447.4	450.1
42.5°	396.5	403.2	413.9	432.7	439.4
45°	376.4	383.1	397.9	418.0	428.7
47.5°	357.7	364.4	380.4	404.6	418.0
50°	334.9	344.3	364.4	392.5	405.9
52.5°	313.5	321.5	348.3	379.1	395.2
55°	290.7	300.1	332.2	365.7	383.1
57.5°	270.6	278.6	314.8	352.3	372.4
60°	245.1	255.9	297.4	337.6	357.7
62.5°	218.4	234.4	280.0	321.5	342.9
65°	192.9	211.7	263.9	305.4	326.9
67.5°	170.1	190.2	243.8	288.0	308.1
70°	143.3	168.8	223.7	266.6	289.4
72.5°	119.2	147.4	200.9	243.8	263.9
75°	95.1	125.9	178.2	214.3	226.4
77.5°	73.7	103.1	152.7	163.4	164.8
80°	54.9	81.7	113.9	115.2	119.2
82.5°	37.5	57.6	73.7	80.4	81.7
85°	24.1	33.5	41.5	42.9	45.5
87.5°	10.7	12.1	14.7	13.4	13.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)