

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: P312467

Luminaire Tested: **22FCZ2-24HE-UNV-L83050-HRP-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: P312467
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-22)
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-HRP-CA08-W2A-U-4000K
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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: 1856.0 lumens
Efficiency: N/A
Efficacy: 96.2 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

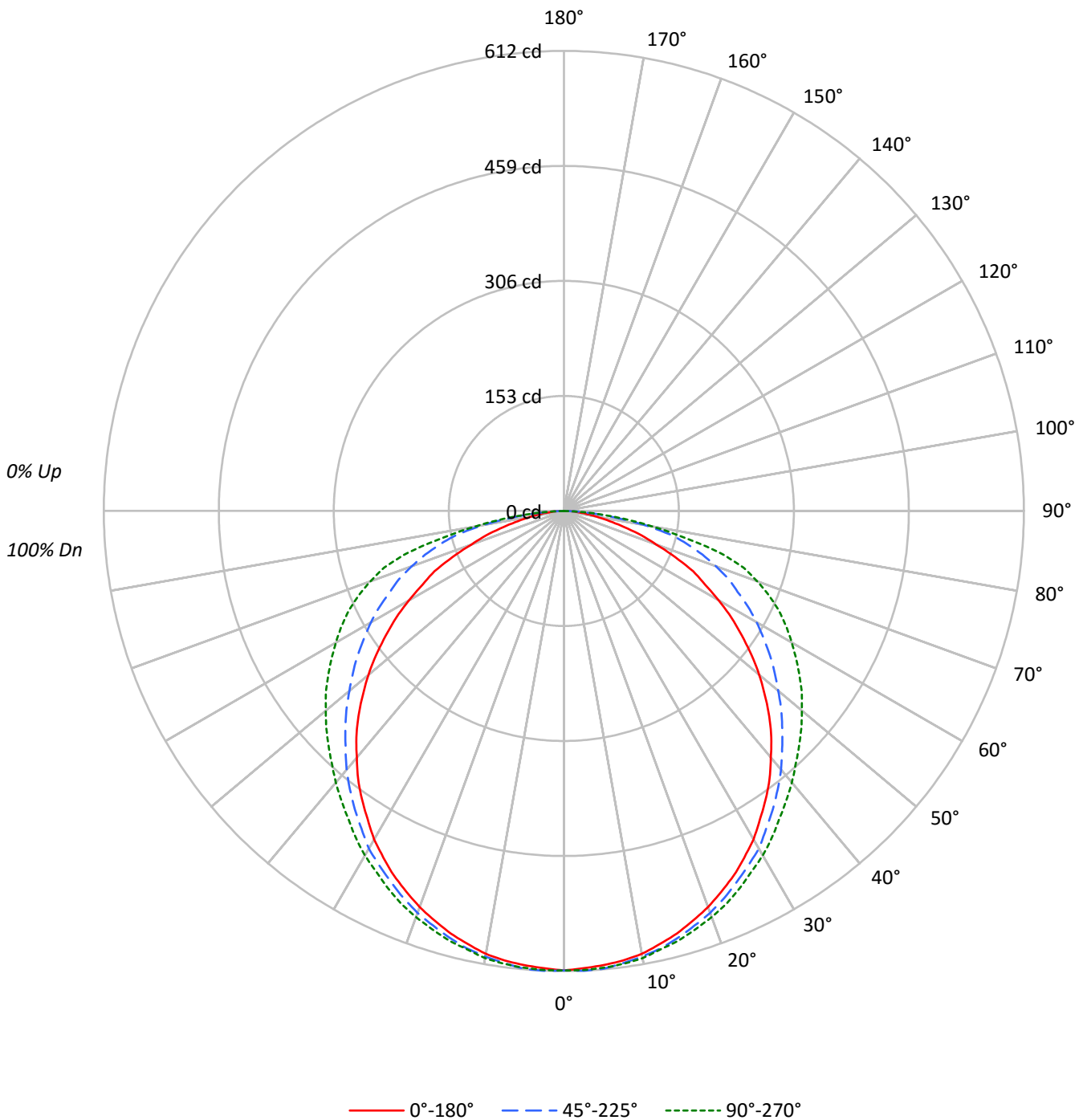
Input Watts (W): 19.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	87	84	82
2	98	89	82	76	95	87	80	75	84	78	73	80	75	71	77	73	70	68
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	59	52	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	50	43	38	49	43	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
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	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1645	1645	1645
5°	1638	1651	1648
10°	1635	1644	1651
15°	1621	1637	1647
20°	1606	1629	1646
25°	1589	1616	1644
30°	1568	1612	1644
35°	1538	1592	1642
40°	1505	1579	1657
45°	1470	1564	1684
50°	1421	1559	1730
55°	1357	1571	1796
60°	1279	1594	1884
65°	1208	1625	2013
70°	1031	1695	2156
75°	864	1765	2240
80°	708	1706	1869
85°	614	1266	1374



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.9	3.1
10°-20°	165.7	8.9
20°-30°	251.1	13.5
30°-40°	303.2	16.3
40°-50°	318.6	17.2
50°-60°	299.8	16.2
60°-70°	249.9	13.5
70°-80°	165.6	8.9
80°-90°	44.1	2.4
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°	474.7	25.6
0°-40°	777.9	41.9
0°-60°	1396.3	75.2
0°-90°	1856.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1856.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	611	611	611	611	611	
5°	606	608	611	611	610	58
15°	582	584	588	590	591	164
25°	535	539	544	551	554	246
35°	468	473	485	495	500	293
45°	386	392	411	432	443	298
55°	289	302	335	369	383	259
65°	190	206	255	297	316	185
75°	83	116	170	205	215	90
85°	20	30	41	44	44	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	611.2	611.2	611.2	611.2	611.2
2.5°	608.8	610.0	612.3	612.3	611.2
5°	606.5	607.6	611.2	611.2	610.0
7.5°	603.0	604.1	606.5	608.8	607.6
10°	598.3	599.5	601.8	604.1	604.1
12.5°	590.1	591.3	595.9	597.1	597.1
15°	581.9	584.2	587.7	590.1	591.3
17.5°	571.4	573.7	578.4	583.1	583.1
20°	560.8	563.2	569.0	573.7	574.9
22.5°	547.9	551.4	557.3	563.2	565.5
25°	535.1	538.6	544.4	551.4	553.8
27.5°	519.8	523.3	531.5	539.7	540.9
30°	504.6	508.1	518.7	525.7	529.2
32.5°	485.9	490.6	501.1	511.6	515.2
35°	468.3	473.0	484.7	495.3	499.9
37.5°	449.6	454.3	467.2	480.0	485.9
40°	428.5	434.4	449.6	463.6	471.8
42.5°	408.6	414.5	429.7	448.4	456.6
45°	386.4	392.2	411.0	432.0	442.6
47.5°	362.9	370.0	392.2	418.0	428.5
50°	339.5	347.7	372.3	401.6	413.3
52.5°	314.9	325.5	353.6	385.2	399.2
55°	289.2	302.1	334.9	368.8	382.9
57.5°	264.6	276.3	314.9	351.2	366.5
60°	237.7	252.9	296.2	333.7	350.1
62.5°	211.9	228.3	276.3	316.1	333.7
65°	189.7	206.1	255.2	297.4	316.1
67.5°	160.4	182.6	237.7	277.5	296.2
70°	131.1	161.6	215.4	256.4	274.0
72.5°	108.9	138.2	193.2	234.2	250.6
75°	83.1	115.9	169.8	204.9	215.4
77.5°	62.1	96.0	145.2	162.7	163.9
80°	45.7	73.8	110.1	115.9	120.6
82.5°	31.6	51.5	71.4	78.4	80.8
85°	19.9	30.4	41.0	44.5	44.5
87.5°	10.5	11.7	14.0	14.0	14.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)