

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: P312507

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-HRP-CP187-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: P312507
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: 22FCZ2-29HE-UNV-L83050-HRP-CP187-W2A-U-4000K
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187" POLYCARB 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: 2031.0 lumens
Efficiency: N/A
Efficacy: 88.7 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

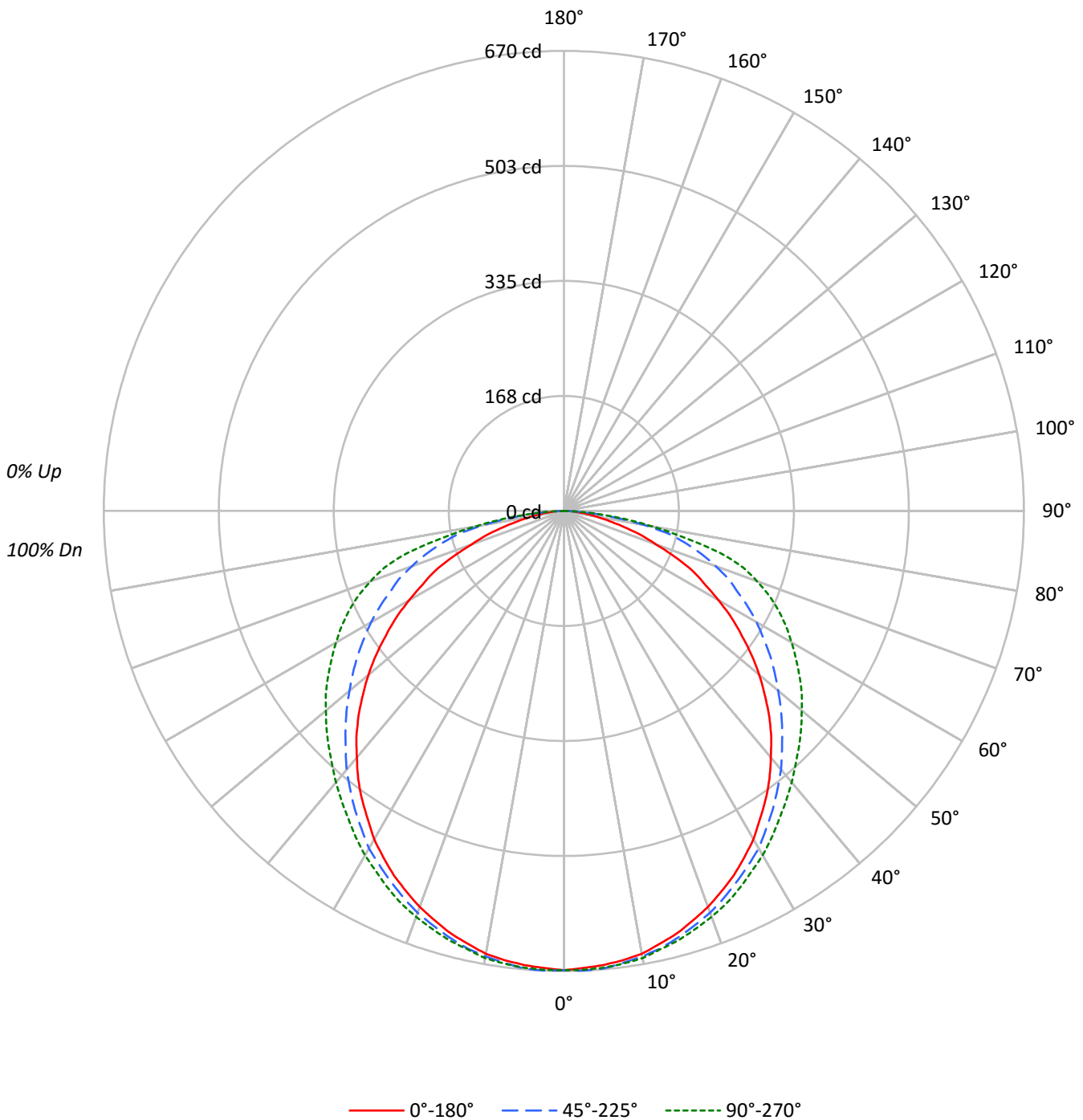
Input Watts (W): 22.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1800	1800	1800
5°	1793	1807	1803
10°	1789	1799	1806
15°	1774	1792	1802
20°	1757	1783	1802
25°	1738	1769	1799
30°	1716	1764	1799
35°	1684	1742	1797
40°	1647	1728	1814
45°	1609	1711	1843
50°	1555	1706	1894
55°	1485	1719	1966
60°	1400	1744	2062
65°	1322	1778	2202
70°	1129	1854	2359
75°	946	1932	2451
80°	775	1866	2046
85°	673	1383	1504



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.4	3.1
10°-20°	181.3	8.9
20°-30°	274.8	13.5
30°-40°	331.8	16.3
40°-50°	348.6	17.2
50°-60°	328.0	16.2
60°-70°	273.5	13.5
70°-80°	181.2	8.9
80°-90°	48.3	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°	519.5	25.6
0°-40°	851.3	41.9
0°-60°	1528.0	75.2
0°-90°	2031.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2031.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	669	669	669	669	669	
5°	664	665	669	669	668	63
15°	637	639	643	646	647	180
25°	586	589	596	603	606	270
35°	512	518	530	542	547	320
45°	423	429	450	473	484	326
55°	316	330	366	404	419	283
65°	208	226	279	325	346	202
75°	91	127	186	224	236	99
85°	22	33	45	49	49	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	668.8	668.8	668.8	668.8	668.8
2.5°	666.2	667.5	670.1	670.1	668.8
5°	663.7	664.9	668.8	668.8	667.5
7.5°	659.8	661.1	663.7	666.2	664.9
10°	654.7	656.0	658.5	661.1	661.1
12.5°	645.7	647.0	652.1	653.4	653.4
15°	636.8	639.3	643.2	645.7	647.0
17.5°	625.2	627.8	632.9	638.0	638.0
20°	613.7	616.3	622.7	627.8	629.1
22.5°	599.6	603.4	609.9	616.3	618.8
25°	585.5	589.4	595.8	603.4	606.0
27.5°	568.9	572.7	581.7	590.6	591.9
30°	552.2	556.0	567.6	575.3	579.1
32.5°	531.7	536.8	548.4	559.9	563.7
35°	512.5	517.6	530.4	541.9	547.1
37.5°	492.0	497.1	511.2	525.3	531.7
40°	468.9	475.3	492.0	507.4	516.3
42.5°	447.1	453.5	470.2	490.7	499.7
45°	422.8	429.2	449.7	472.8	484.3
47.5°	397.2	404.9	429.2	457.4	468.9
50°	371.5	380.5	407.4	439.5	452.3
52.5°	344.6	356.2	386.9	421.5	436.9
55°	316.5	330.5	366.4	403.6	419.0
57.5°	289.6	302.4	344.6	384.4	401.0
60°	260.1	276.7	324.1	365.1	383.1
62.5°	231.9	249.8	302.4	345.9	365.1
65°	207.6	225.5	279.3	325.4	345.9
67.5°	175.5	199.9	260.1	303.6	324.1
70°	143.5	176.8	235.7	280.6	299.8
72.5°	119.2	151.2	211.4	256.2	274.2
75°	91.0	126.8	185.8	224.2	235.7
77.5°	67.9	105.1	158.9	178.1	179.4
80°	50.0	80.7	120.4	126.8	132.0
82.5°	34.6	56.4	78.2	85.8	88.4
85°	21.8	33.3	44.8	48.7	48.7
87.5°	11.5	12.8	15.4	15.4	15.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)