

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: P312506

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-HRP-CP187-W2A-U-3500K**

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: P312506
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-3500K
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187" POLYCARB SHEET
Light Source: (168) 3500K 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: 1934.0 lumens
Efficiency: N/A
Efficacy: 86.3 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

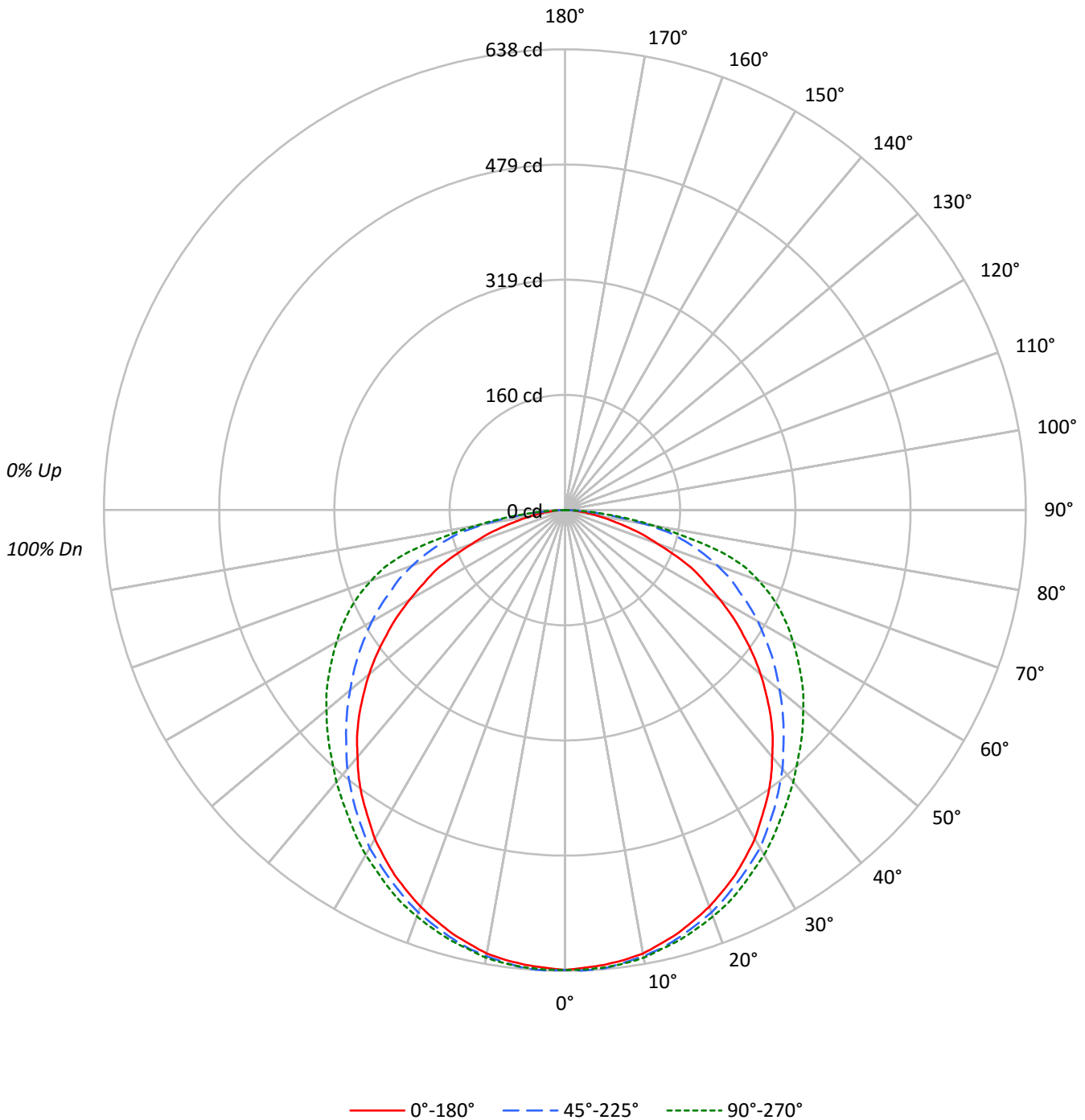
Input Watts (W): 22.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1714	1714	1714
5°	1707	1720	1717
10°	1703	1714	1720
15°	1689	1706	1716
20°	1674	1698	1715
25°	1655	1684	1714
30°	1634	1679	1713
35°	1603	1659	1711
40°	1568	1646	1727
45°	1532	1630	1755
50°	1481	1624	1803
55°	1414	1637	1871
60°	1333	1661	1963
65°	1258	1694	2097
70°	1075	1766	2246
75°	900	1839	2334
80°	738	1777	1948
85°	639	1318	1433



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.4	3.1
10°-20°	172.7	8.9
20°-30°	261.7	13.5
30°-40°	316.0	16.3
40°-50°	332.0	17.2
50°-60°	312.4	16.2
60°-70°	260.5	13.5
70°-80°	172.6	8.9
80°-90°	46.0	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°	494.7	25.6
0°-40°	810.6	41.9
0°-60°	1455.0	75.2
0°-90°	1934.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1934.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	637	637	637	637	637	
5°	632	633	637	637	636	60
15°	606	609	612	615	616	171
25°	558	561	567	575	577	257
35°	488	493	505	516	521	305
45°	403	409	428	450	461	310
55°	301	315	349	384	399	270
65°	198	215	266	310	329	192
75°	87	121	177	214	224	94
85°	21	32	43	46	46	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	636.8	636.8	636.8	636.8	636.8
2.5°	634.4	635.6	638.1	638.1	636.8
5°	632.0	633.2	636.8	636.8	635.6
7.5°	628.3	629.5	632.0	634.4	633.2
10°	623.4	624.6	627.1	629.5	629.5
12.5°	614.9	616.1	621.0	622.2	622.2
15°	606.3	608.8	612.4	614.9	616.1
17.5°	595.4	597.8	602.7	607.6	607.6
20°	584.4	586.8	592.9	597.8	599.0
22.5°	571.0	574.6	580.7	586.8	589.3
25°	557.5	561.2	567.3	574.6	577.1
27.5°	541.7	545.3	553.9	562.4	563.6
30°	525.8	529.5	540.5	547.8	551.4
32.5°	506.3	511.2	522.2	533.1	536.8
35°	488.0	492.9	505.1	516.1	520.9
37.5°	468.5	473.4	486.8	500.2	506.3
40°	446.5	452.6	468.5	483.1	491.7
42.5°	425.8	431.9	447.7	467.3	475.8
45°	402.6	408.7	428.2	450.2	461.2
47.5°	378.2	385.5	408.7	435.5	446.5
50°	353.8	362.3	388.0	418.5	430.7
52.5°	328.2	339.2	368.4	401.4	416.0
55°	301.3	314.8	348.9	384.3	398.9
57.5°	275.7	287.9	328.2	366.0	381.9
60°	247.7	263.5	308.7	347.7	364.8
62.5°	220.8	237.9	287.9	329.4	347.7
65°	197.6	214.7	266.0	309.9	329.4
67.5°	167.1	190.3	247.7	289.1	308.7
70°	136.6	168.4	224.5	267.2	285.5
72.5°	113.5	144.0	201.3	244.0	261.1
75°	86.6	120.8	176.9	213.5	224.5
77.5°	64.7	100.0	151.3	169.6	170.8
80°	47.6	76.9	114.7	120.8	125.7
82.5°	32.9	53.7	74.4	81.7	84.2
85°	20.7	31.7	42.7	46.4	46.4
87.5°	11.0	12.2	14.6	14.6	14.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)