

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: P308180

Luminaire Tested: **22FCZ2-29HE-UNV-L82765-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: P308180
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-L82765-HRP-CP187-W2A-U-4000K
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187" POLYCARB SHEET
Light Source: (168) 3000K 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: 1863.0 lumens
Efficiency: N/A
Efficacy: 82.1 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

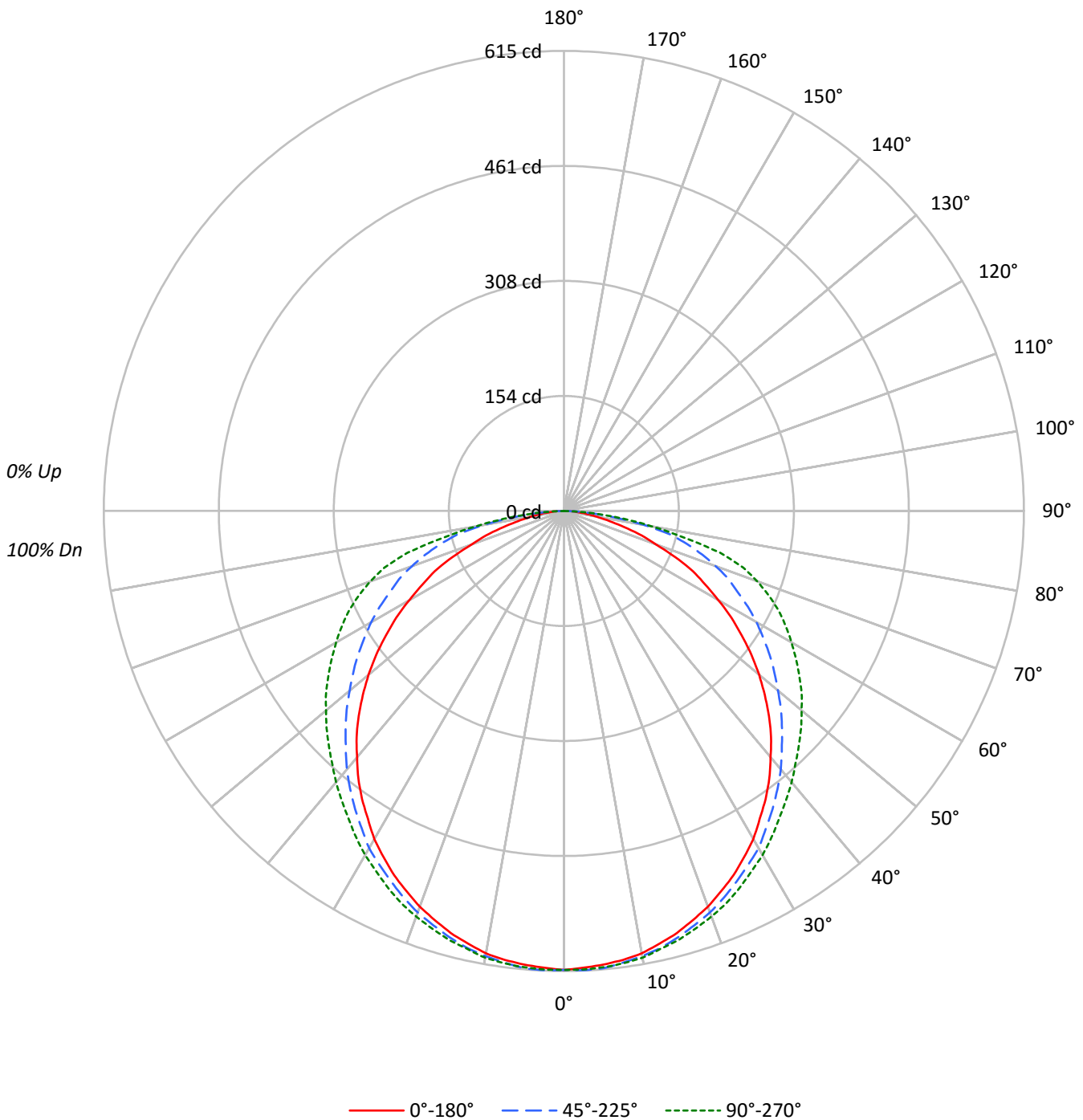
Input Watts (W): 22.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1651	1651	1651
5°	1645	1657	1654
10°	1641	1651	1657
15°	1627	1644	1653
20°	1612	1636	1652
25°	1595	1623	1651
30°	1574	1618	1651
35°	1544	1598	1648
40°	1511	1585	1664
45°	1476	1570	1690
50°	1427	1564	1737
55°	1362	1577	1803
60°	1284	1600	1891
65°	1212	1631	2020
70°	1035	1701	2164
75°	867	1772	2248
80°	710	1712	1875
85°	618	1269	1380



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.1	3.1
10°-20°	166.3	8.9
20°-30°	252.1	13.5
30°-40°	304.3	16.3
40°-50°	319.8	17.2
50°-60°	300.9	16.2
60°-70°	250.9	13.5
70°-80°	166.2	8.9
80°-90°	44.3	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°	476.5	25.6
0°-40°	780.9	41.9
0°-60°	1401.6	75.2
0°-90°	1863.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1863.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	614	614	614	614	614	
5°	609	610	614	614	612	58
15°	584	586	590	592	594	165
25°	537	541	546	554	556	247
35°	470	475	486	497	502	294
45°	388	394	412	434	444	299
55°	290	303	336	370	384	260
65°	190	207	256	298	317	185
75°	83	116	170	206	216	91
85°	20	31	41	45	45	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	613.5	613.5	613.5	613.5	613.5
2.5°	611.1	612.3	614.6	614.6	613.5
5°	608.8	609.9	613.5	613.5	612.3
7.5°	605.2	606.4	608.8	611.1	609.9
10°	600.5	601.7	604.1	606.4	606.4
12.5°	592.3	593.5	598.2	599.4	599.4
15°	584.1	586.4	590.0	592.3	593.5
17.5°	573.5	575.9	580.6	585.3	585.3
20°	562.9	565.3	571.2	575.9	577.0
22.5°	550.0	553.5	559.4	565.3	567.6
25°	537.1	540.6	546.5	553.5	555.9
27.5°	521.8	525.3	533.5	541.8	543.0
30°	506.5	510.0	520.6	527.7	531.2
32.5°	487.7	492.4	503.0	513.6	517.1
35°	470.1	474.8	486.5	497.1	501.8
37.5°	451.3	456.0	468.9	481.8	487.7
40°	430.1	436.0	451.3	465.4	473.6
42.5°	410.2	416.0	431.3	450.1	458.3
45°	387.8	393.7	412.5	433.7	444.2
47.5°	364.3	371.4	393.7	419.6	430.1
50°	340.8	349.0	373.7	403.1	414.9
52.5°	316.1	326.7	354.9	386.6	400.8
55°	290.3	303.2	336.1	370.2	384.3
57.5°	265.6	277.4	316.1	352.6	367.8
60°	238.6	253.8	297.3	334.9	351.4
62.5°	212.7	229.2	277.4	317.3	334.9
65°	190.4	206.8	256.2	298.5	317.3
67.5°	161.0	183.3	238.6	278.5	297.3
70°	131.6	162.2	216.2	257.4	275.0
72.5°	109.3	138.7	193.9	235.0	251.5
75°	83.4	116.3	170.4	205.7	216.2
77.5°	62.3	96.4	145.7	163.4	164.5
80°	45.8	74.0	110.5	116.3	121.0
82.5°	31.7	51.7	71.7	78.7	81.1
85°	20.0	30.6	41.1	44.7	44.7
87.5°	10.6	11.8	14.1	14.1	14.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)