

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: P308189

Luminaire Tested: **22FCZ2-29HE-UNV-L82765-HRP-CP250-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: P308189
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-CP250-W2A-U-4000K
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
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: 1847.0 lumens
Efficiency: N/A
Efficacy: 81.4 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

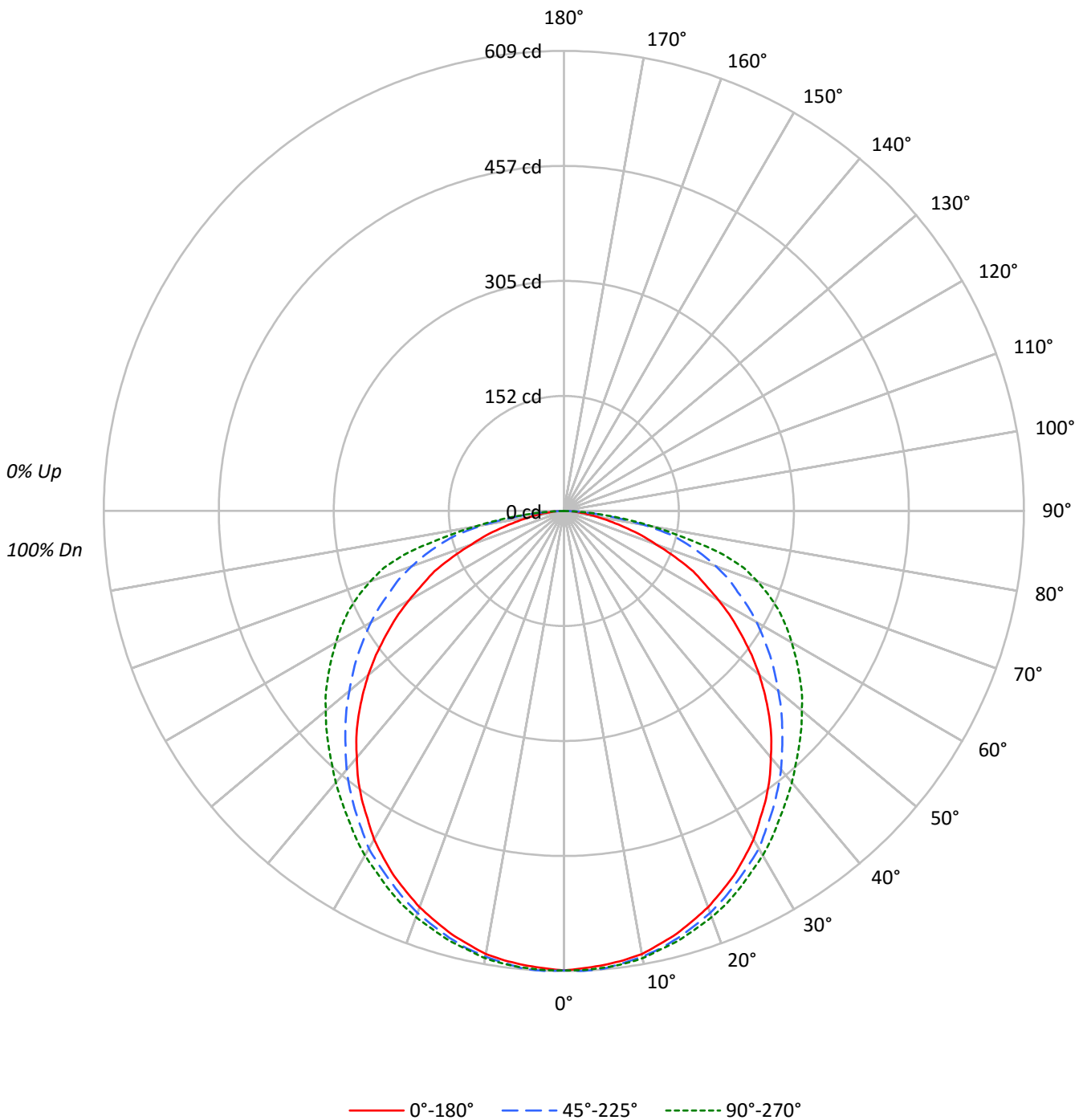
Input Watts (W): 22.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1637	1637	1637
5°	1630	1643	1640
10°	1627	1636	1643
15°	1613	1629	1639
20°	1598	1622	1638
25°	1581	1609	1636
30°	1560	1604	1636
35°	1531	1585	1634
40°	1498	1572	1649
45°	1463	1556	1676
50°	1415	1551	1722
55°	1350	1563	1787
60°	1273	1587	1875
65°	1202	1617	2003
70°	1027	1687	2145
75°	860	1756	2229
80°	704	1697	1860
85°	611	1260	1368



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.6	3.1
10°-20°	164.9	8.9
20°-30°	249.9	13.5
30°-40°	301.7	16.3
40°-50°	317.1	17.2
50°-60°	298.3	16.2
60°-70°	248.7	13.5
70°-80°	164.8	8.9
80°-90°	43.9	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°	472.4	25.6
0°-40°	774.2	41.9
0°-60°	1389.5	75.2
0°-90°	1847.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1847.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	608	608	608	608	608	
5°	604	605	608	608	607	57
15°	579	581	585	587	588	163
25°	532	536	542	549	551	245
35°	466	471	482	493	498	291
45°	384	390	409	430	440	296
55°	288	301	333	367	381	257
65°	189	205	254	296	315	184
75°	83	115	169	204	214	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°	608.2	608.2	608.2	608.2	608.2
2.5°	605.9	607.0	609.4	609.4	608.2
5°	603.5	604.7	608.2	608.2	607.0
7.5°	600.0	601.2	603.5	605.9	604.7
10°	595.4	596.5	598.9	601.2	601.2
12.5°	587.2	588.4	593.0	594.2	594.2
15°	579.1	581.4	584.9	587.2	588.4
17.5°	568.6	570.9	575.6	580.2	580.2
20°	558.1	560.4	566.3	570.9	572.1
22.5°	545.3	548.8	554.6	560.4	562.8
25°	532.5	536.0	541.8	548.8	551.1
27.5°	517.3	520.8	529.0	537.1	538.3
30°	502.2	505.7	516.2	523.1	526.6
32.5°	483.5	488.2	498.7	509.2	512.7
35°	466.1	470.7	482.4	492.8	497.5
37.5°	447.4	452.1	464.9	477.7	483.5
40°	426.4	432.3	447.4	461.4	469.5
42.5°	406.6	412.5	427.6	446.2	454.4
45°	384.5	390.3	409.0	429.9	440.4
47.5°	361.2	368.2	390.3	416.0	426.4
50°	337.9	346.0	370.5	399.6	411.3
52.5°	313.4	323.9	351.9	383.3	397.3
55°	287.8	300.6	333.2	367.0	381.0
57.5°	263.3	275.0	313.4	349.5	364.7
60°	236.5	251.7	294.8	332.1	348.4
62.5°	210.9	227.2	275.0	314.6	332.1
65°	188.8	205.1	254.0	295.9	314.6
67.5°	159.6	181.8	236.5	276.1	294.8
70°	130.5	160.8	214.4	255.2	272.6
72.5°	108.4	137.5	192.2	233.0	249.3
75°	82.7	115.3	168.9	203.9	214.4
77.5°	61.8	95.5	144.5	162.0	163.1
80°	45.4	73.4	109.5	115.3	120.0
82.5°	31.5	51.3	71.1	78.1	80.4
85°	19.8	30.3	40.8	44.3	44.3
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)