

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: P308942

Luminaire Tested: **22FCZ2-24HE-UNV-L82765-S-CP187-W2A-U-2700K**

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: P308942
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)
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-L82765-S-CP187-W2A-U-2700K
Description: 2'X2' TROFFER LED MODULE, SMOOTH 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: 1988.0 lumens
Efficiency: N/A
Efficacy: 105.2 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

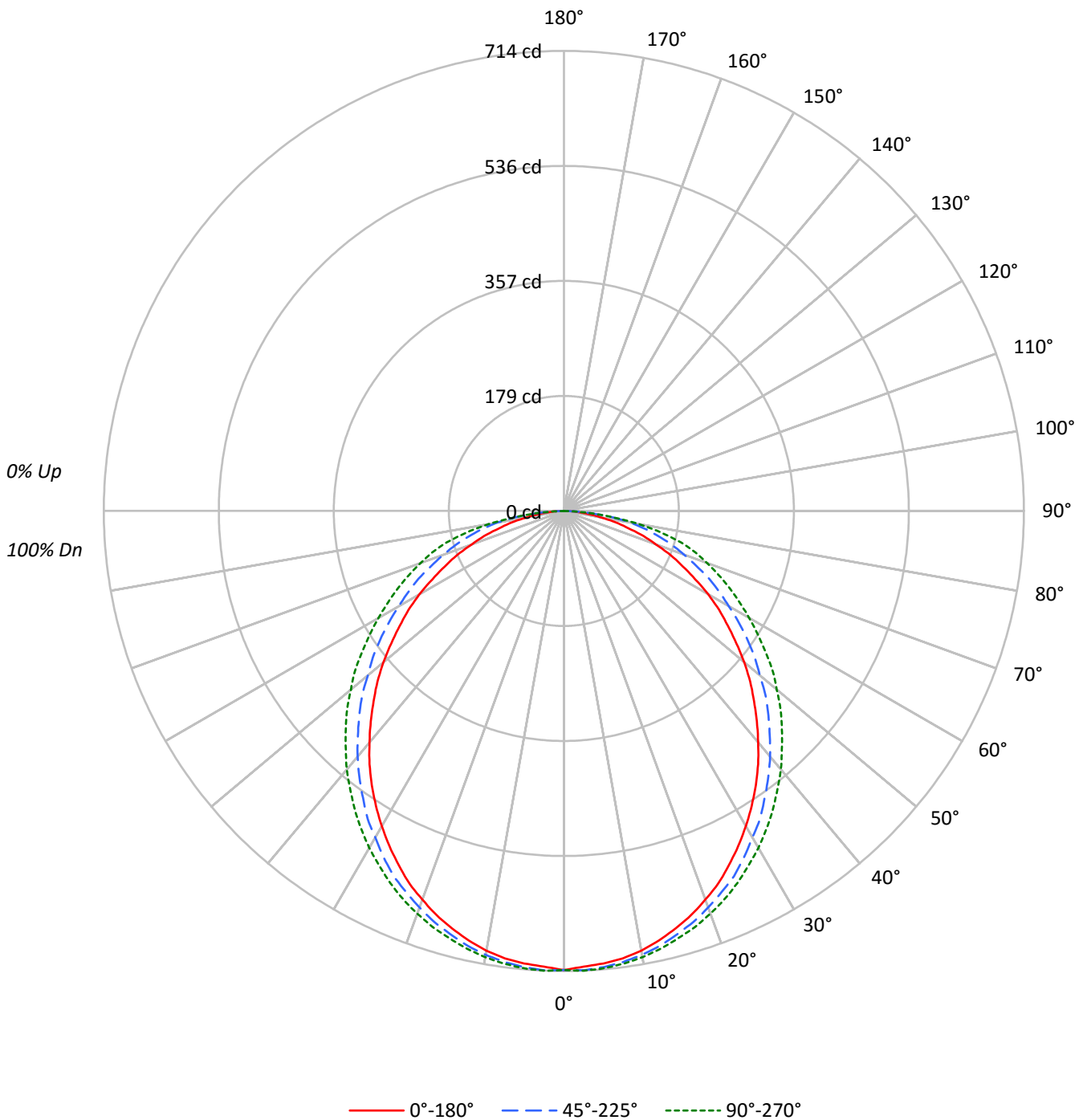
Input Watts (W): 18.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1917	1917	1917
5°	1904	1919	1924
10°	1893	1911	1921
15°	1868	1894	1912
20°	1838	1875	1905
25°	1801	1856	1892
30°	1755	1819	1876
35°	1706	1785	1859
40°	1649	1750	1841
45°	1588	1708	1821
50°	1530	1662	1806
55°	1458	1632	1793
60°	1393	1593	1787
65°	1300	1583	1807
70°	1197	1569	1861
75°	1080	1591	1958
80°	934	1638	1839
85°	772	1374	1374



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.4	3.4
10°-20°	191.7	9.6
20°-30°	286.9	14.4
30°-40°	339.7	17.1
40°-50°	346.2	17.4
50°-60°	310.3	15.6
60°-70°	242.9	12.2
70°-80°	156.7	7.9
80°-90°	46.3	2.3
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°	545.9	27.5
0°-40°	885.6	44.5
0°-60°	1542.1	77.6
0°-90°	1988.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1988.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	712	712	712	712	712	
5°	705	707	710	711	712	67
15°	671	674	680	686	686	189
25°	607	612	625	634	637	279
35°	519	526	544	560	566	325
45°	417	427	449	472	479	322
55°	311	321	348	372	382	279
65°	204	216	249	273	284	203
75°	104	120	153	179	188	111
85°	25	34	44	44	44	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	712.4	712.4	712.4	712.4	712.4
2.5°	707.7	709.6	713.3	714.2	714.2
5°	704.9	706.8	710.5	711.4	712.4
7.5°	700.3	701.2	705.9	707.7	708.7
10°	692.9	694.7	699.4	702.2	703.1
12.5°	682.7	685.5	691.0	694.7	695.7
15°	670.6	674.3	679.9	685.5	686.4
17.5°	657.6	661.3	668.8	675.3	677.1
20°	641.9	646.5	654.9	662.3	665.1
22.5°	626.1	629.8	640.0	649.3	652.1
25°	606.6	612.2	625.2	633.5	637.2
27.5°	586.2	592.7	605.7	616.8	620.5
30°	564.9	571.4	585.3	599.2	603.8
32.5°	542.6	550.0	566.7	580.6	585.3
35°	519.4	525.9	543.5	560.2	565.8
37.5°	495.3	500.9	521.3	538.9	544.5
40°	469.3	476.8	498.1	518.5	524.1
42.5°	443.4	451.7	473.1	495.3	500.9
45°	417.4	426.7	448.9	472.1	478.6
47.5°	392.4	399.8	424.8	447.1	456.4
50°	365.5	372.9	397.0	422.0	431.3
52.5°	337.6	347.8	373.8	397.9	409.1
55°	310.7	320.9	347.8	371.9	382.2
57.5°	285.7	294.0	321.9	346.9	357.1
60°	258.8	266.2	295.9	322.8	332.1
62.5°	230.0	241.2	271.8	296.8	307.9
65°	204.1	216.1	248.6	272.7	283.8
67.5°	179.9	191.1	222.6	248.6	260.6
70°	152.1	167.0	199.4	225.4	236.5
72.5°	129.9	142.8	176.2	202.2	214.3
75°	103.9	119.7	153.0	179.0	188.3
77.5°	82.6	98.3	129.9	150.3	154.9
80°	60.3	76.1	105.7	115.9	118.7
82.5°	40.8	55.7	76.1	78.8	79.8
85°	25.0	34.3	44.5	44.5	44.5
87.5°	12.1	13.9	15.8	14.8	14.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)