

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P562660

Luminaire Tested: FSR-24-4-LD4-2HI-50-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562660
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-4-LD4-2HI-50-UNV-93-86-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8307.0 lumens
Efficiency: N/A
Efficacy: 96.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

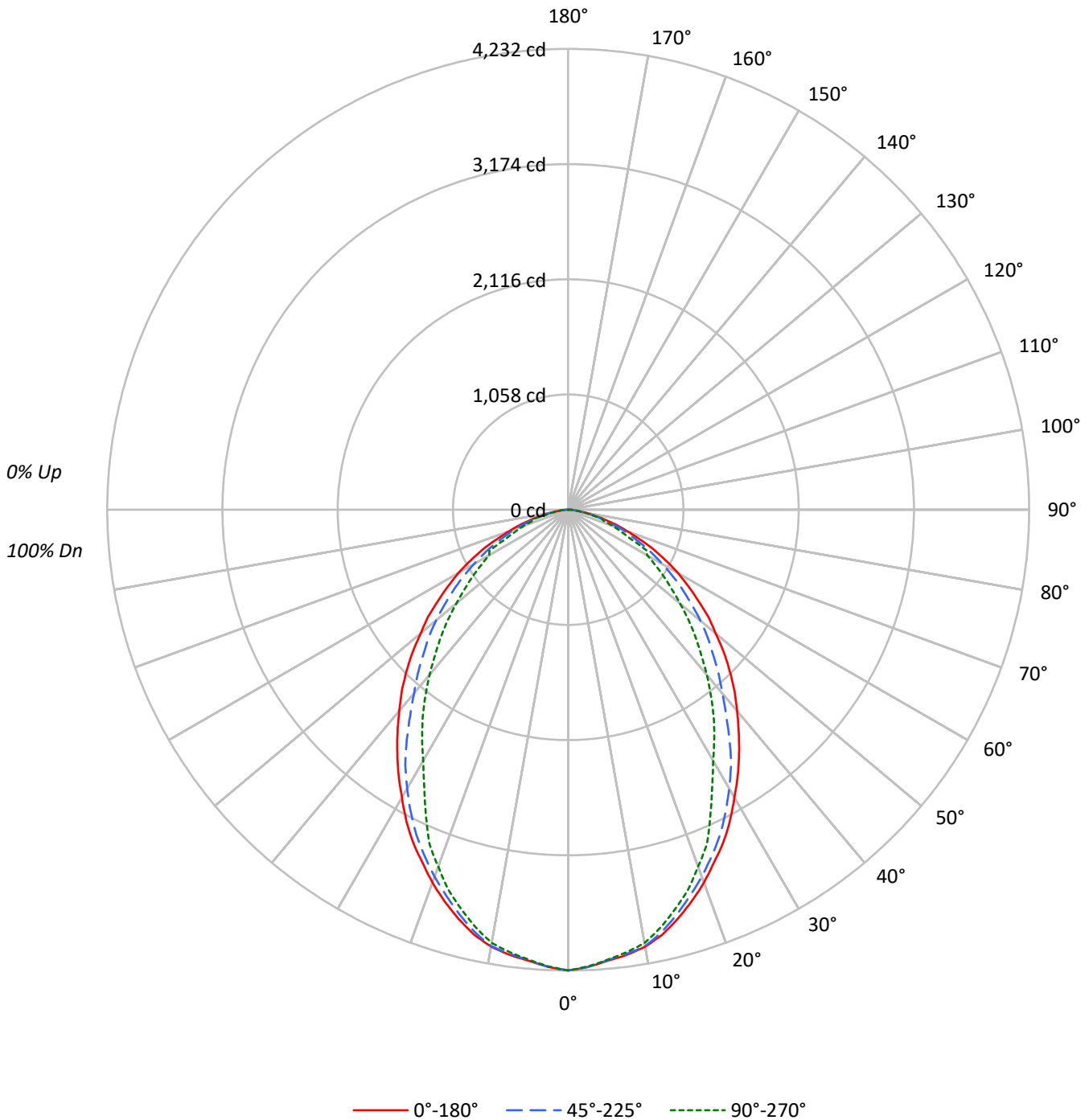
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5693	5693	5693
5°	5616	5609	5603
10°	5567	5561	5521
15°	5417	5363	5288
20°	5218	5134	4994
25°	5004	4895	4590
30°	4742	4591	4135
35°	4492	4243	3825
40°	4236	3866	3480
45°	3993	3574	3146
50°	3697	3318	2806
55°	3420	3007	2513
60°	3133	2685	2251
65°	2757	2352	1994
70°	2271	2059	1694
75°	1805	1577	1653
80°	1213	1137	1062
85°	755	906	1057

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3993 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	393.9	4.7
10°-20°	1081.0	13.0
20°-30°	1496.6	18.0
30°-40°	1595.8	19.2
40°-50°	1455.8	17.5
50°-60°	1140.5	13.7
60°-70°	743.3	8.9
70°-80°	329.3	4.0
80°-90°	70.7	0.9
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°	2971.5	35.8
0°-40°	4567.3	55.0
0°-60°	7163.6	86.2
0°-90°	8307.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8307.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4232	4232	4232	4232	4232	
5°	4158	4153	4153	4148	4148	395
15°	3889	3889	3850	3811	3796	1093
25°	3370	3351	3297	3180	3092	1547
35°	2735	2715	2583	2387	2328	1710
45°	2099	2055	1878	1722	1654	1617
55°	1458	1414	1282	1130	1071	1308
65°	866	817	739	753	626	853
75°	347	323	303	289	318	372
85°	49	54	59	64	68	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4231.5	4231.5	4231.5	4231.5	4231.5
2.5°	4202.1	4202.1	4202.1	4197.2	4197.2
5°	4158.1	4153.2	4153.2	4148.3	4148.3
7.5°	4123.9	4119.0	4114.1	4109.2	4099.4
10°	4074.9	4074.9	4070.0	4045.6	4040.7
12.5°	3996.7	3991.8	3972.2	3938.0	3928.2
15°	3889.0	3889.0	3849.9	3810.8	3796.1
17.5°	3771.6	3766.7	3717.8	3678.7	3659.1
20°	3644.4	3634.7	3585.7	3522.2	3487.9
22.5°	3502.6	3502.6	3443.9	3360.7	3326.5
25°	3370.5	3350.9	3297.1	3179.7	3091.7
27.5°	3218.9	3189.5	3130.8	2964.5	2861.7
30°	3052.5	3037.9	2954.7	2739.5	2661.2
32.5°	2896.0	2871.5	2783.5	2558.5	2494.9
35°	2734.6	2715.0	2582.9	2387.2	2328.5
37.5°	2573.1	2548.7	2382.3	2225.8	2152.4
40°	2411.7	2382.3	2201.3	2059.5	1981.2
42.5°	2260.0	2220.9	2044.8	1893.2	1805.1
45°	2098.6	2054.6	1878.5	1721.9	1653.5
47.5°	1937.2	1898.0	1736.6	1575.2	1496.9
50°	1766.0	1731.7	1585.0	1423.5	1340.4
52.5°	1624.1	1570.3	1428.4	1267.0	1198.5
55°	1457.8	1413.8	1281.7	1130.0	1071.3
57.5°	1306.1	1262.1	1139.8	997.9	949.0
60°	1164.3	1100.7	997.9	875.6	836.5
62.5°	1007.7	958.8	870.8	768.0	816.9
65°	865.9	816.9	738.7	753.3	626.2
67.5°	709.3	684.9	616.4	547.9	528.3
70°	577.2	547.9	523.4	450.1	430.5
72.5°	459.8	430.5	396.2	357.1	342.4
75°	347.3	322.9	303.3	288.6	318.0
77.5°	239.7	229.9	215.2	200.6	195.7
80°	156.5	151.6	146.8	141.9	137.0
82.5°	92.9	92.9	92.9	92.9	92.9
85°	48.9	53.8	58.7	63.6	68.5
87.5°	29.4	29.4	34.2	39.1	44.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)