

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: P563242

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563242
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-LD4-3HI-50-UNV-93-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12887.0 lumens
Efficiency: N/A
Efficacy: 99.4 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

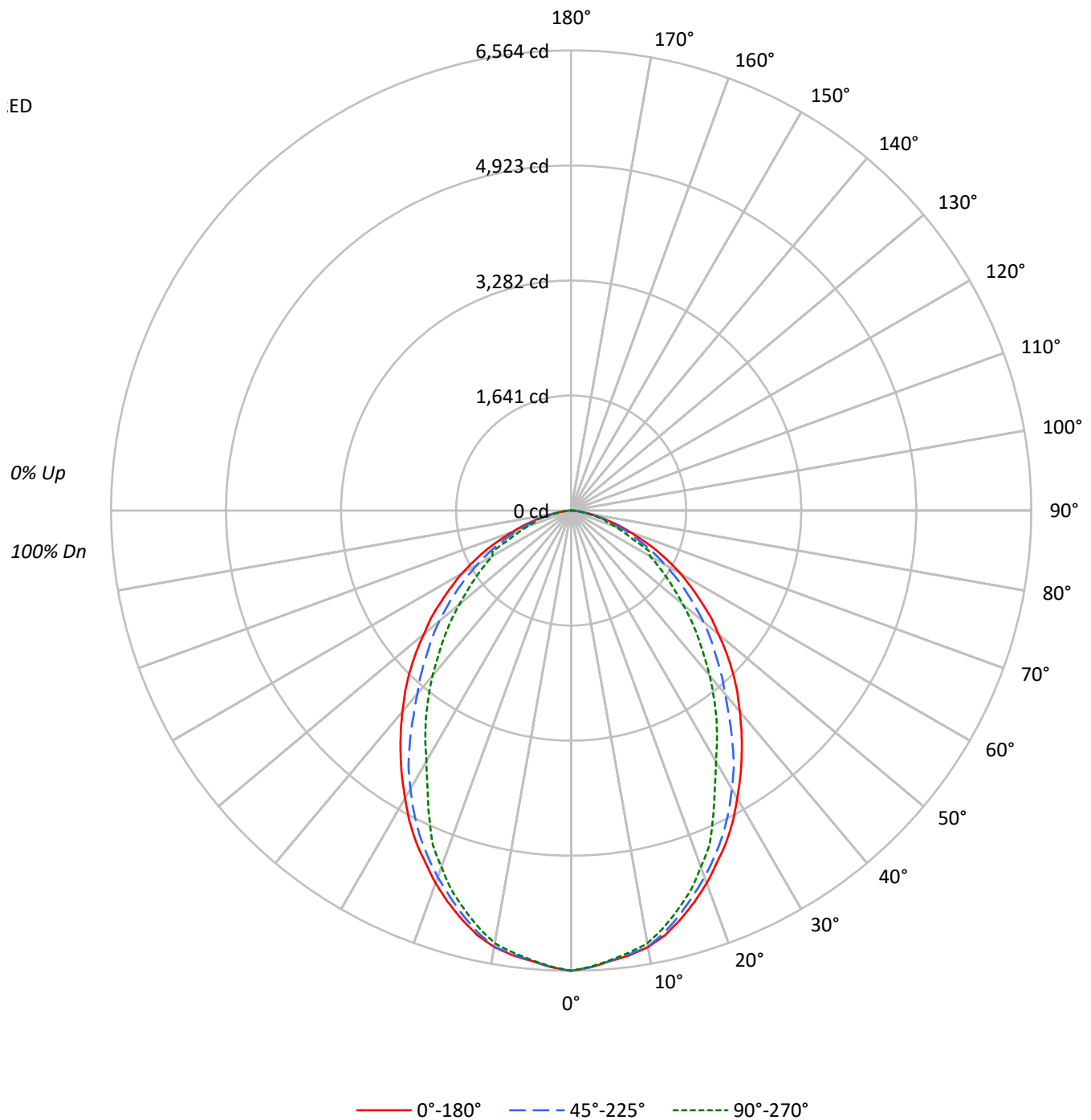
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75					75			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65					65			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44					44			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8832	8832	8832
5°	8712	8702	8692
10°	8637	8626	8564
15°	8404	8319	8203
20°	8095	7965	7748
25°	7763	7594	7120
30°	7357	7121	6414
35°	6968	6582	5934
40°	6571	5998	5398
45°	6195	5545	4881
50°	5735	5147	4353
55°	5305	4664	3899
60°	4860	4166	3492
65°	4276	3648	3093
70°	3523	3194	2627
75°	2801	2446	2564
80°	1881	1764	1647
85°	1172	1406	1639

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6195 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	611.1	4.7
10°-20°	1677.0	13.0
20°-30°	2321.7	18.0
30°-40°	2475.6	19.2
40°-50°	2258.5	17.5
50°-60°	1769.3	13.7
60°-70°	1153.2	8.9
70°-80°	510.9	4.0
80°-90°	109.7	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°	4609.8	35.8
0°-40°	7085.4	55.0
0°-60°	11113.2	86.2
0°-90°	12887.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12887.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6564	6564	6564	6564	6564	
5°	6451	6443	6443	6436	6436	612
15°	6033	6033	5972	5912	5889	1696
25°	5229	5198	5115	4933	4796	2401
35°	4242	4212	4007	3703	3612	2652
45°	3256	3187	2914	2671	2565	2508
55°	2262	2193	1988	1753	1662	2028
65°	1343	1267	1146	1169	971	1324
75°	539	501	470	448	493	577
85°	76	84	91	99	106	105
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6564.5	6564.5	6564.5	6564.5	6564.5
2.5°	6518.9	6518.9	6518.9	6511.3	6511.3
5°	6450.6	6443.0	6443.0	6435.5	6435.5
7.5°	6397.5	6389.9	6382.3	6374.7	6359.6
10°	6321.6	6321.6	6314.0	6276.1	6268.5
12.5°	6200.2	6192.6	6162.2	6109.1	6093.9
15°	6033.2	6033.2	5972.5	5911.8	5889.0
17.5°	5851.1	5843.5	5767.6	5706.9	5676.6
20°	5653.8	5638.6	5562.7	5464.1	5410.9
22.5°	5433.7	5433.7	5342.6	5213.6	5160.5
25°	5228.8	5198.4	5115.0	4932.8	4796.2
27.5°	4993.5	4948.0	4856.9	4598.9	4439.6
30°	4735.5	4712.8	4583.7	4249.8	4128.4
32.5°	4492.7	4454.7	4318.1	3969.0	3870.4
35°	4242.2	4211.9	4007.0	3703.4	3612.4
37.5°	3991.8	3953.9	3695.8	3453.0	3339.2
40°	3741.4	3695.8	3415.0	3195.0	3073.5
42.5°	3506.1	3445.4	3172.2	2936.9	2800.3
45°	3255.7	3187.4	2914.2	2671.3	2565.1
47.5°	3005.2	2944.5	2694.1	2443.7	2322.2
50°	2739.6	2686.5	2458.8	2208.4	2079.4
52.5°	2519.5	2436.1	2216.0	1965.5	1859.3
55°	2261.5	2193.2	1988.3	1753.1	1662.0
57.5°	2026.3	1958.0	1768.2	1548.2	1472.3
60°	1806.2	1707.5	1548.2	1358.4	1297.7
62.5°	1563.3	1487.4	1350.8	1191.5	1267.4
65°	1343.2	1267.4	1145.9	1168.7	971.4
67.5°	1100.4	1062.5	956.2	850.0	819.6
70°	895.5	850.0	812.0	698.2	667.8
72.5°	713.4	667.8	614.7	554.0	531.2
75°	538.8	500.9	470.5	447.7	493.3
77.5°	371.9	356.7	333.9	311.1	303.6
80°	242.8	235.3	227.7	220.1	212.5
82.5°	144.2	144.2	144.2	144.2	144.2
85°	75.9	83.5	91.1	98.7	106.2
87.5°	45.5	45.5	53.1	60.7	68.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)