

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: P563564

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563564
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-LD4-3STD-40-UNV-93-96-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9868.0 lumens
Efficiency: N/A
Efficacy: 98.8 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

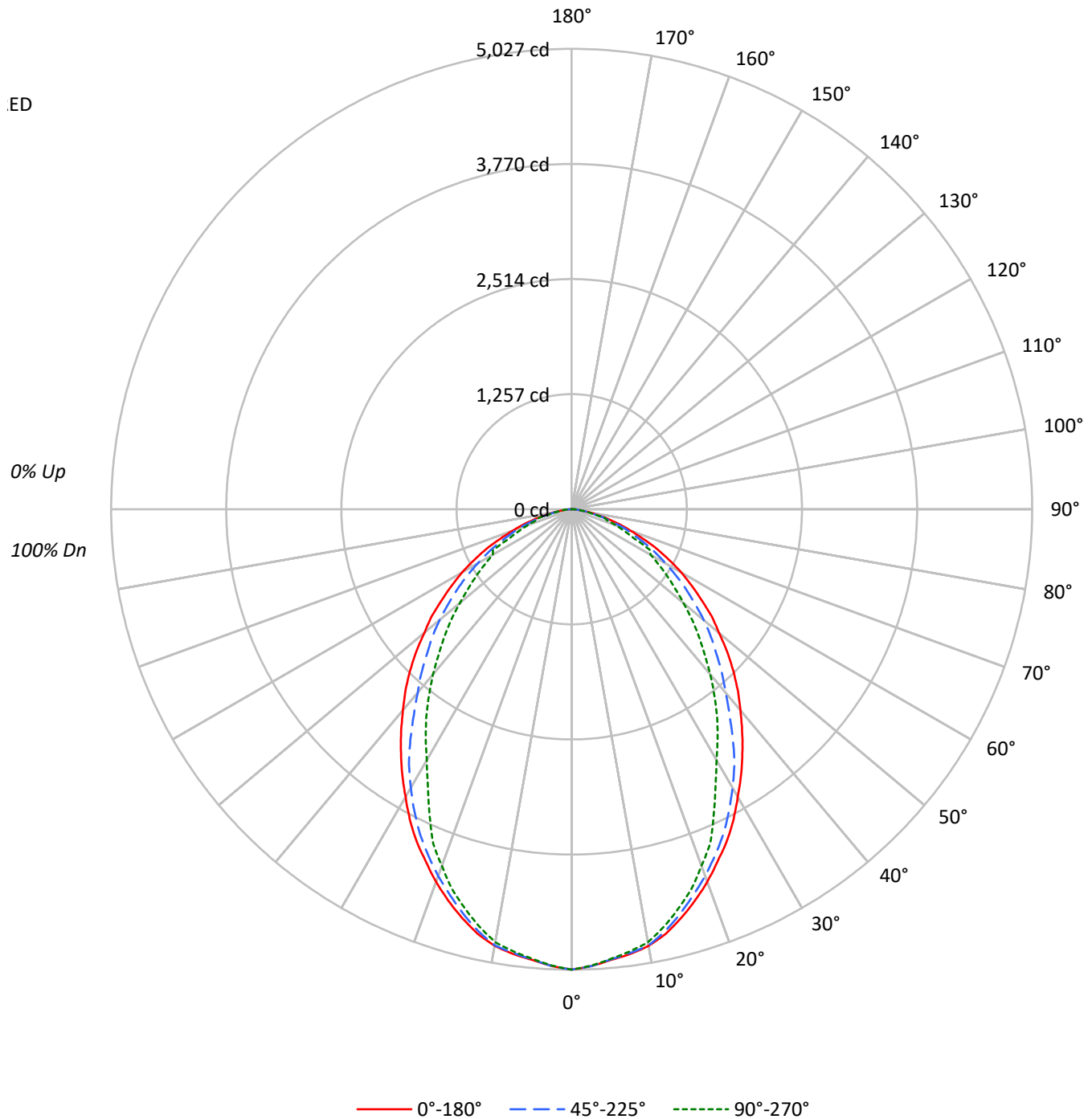
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6763	6763	6763
5°	6671	6663	6656
10°	6614	6606	6558
15°	6435	6371	6281
20°	6199	6099	5933
25°	5944	5815	5452
30°	5634	5453	4912
35°	5336	5040	4543
40°	5032	4593	4134
45°	4744	4246	3737
50°	4391	3941	3333
55°	4062	3571	2985
60°	3722	3190	2674
65°	3275	2794	2368
70°	2698	2446	2012
75°	2145	1873	1964
80°	1441	1351	1261
85°	897	1076	1257

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4744 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	467.9	4.7
10°-20°	1284.1	13.0
20°-30°	1777.8	18.0
30°-40°	1895.7	19.2
40°-50°	1729.4	17.5
50°-60°	1354.8	13.7
60°-70°	883.0	8.9
70°-80°	391.2	4.0
80°-90°	84.0	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°	3529.9	35.8
0°-40°	5425.5	55.0
0°-60°	8509.8	86.2
0°-90°	9868.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9868.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5027	5027	5027	5027	5027	
5°	4940	4934	4934	4928	4928	469
15°	4620	4620	4573	4527	4509	1299
25°	4004	3981	3917	3777	3673	1838
35°	3248	3225	3068	2836	2766	2031
45°	2493	2441	2232	2046	1964	1920
55°	1732	1679	1522	1342	1273	1553
65°	1029	970	878	895	744	1014
75°	413	384	360	343	378	442
85°	58	64	70	76	81	81
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5026.6	5026.6	5026.6	5026.6	5026.6
2.5°	4991.8	4991.8	4991.8	4985.9	4985.9
5°	4939.5	4933.6	4933.6	4927.8	4927.8
7.5°	4898.8	4893.0	4887.2	4881.3	4869.7
10°	4840.7	4840.7	4834.9	4805.8	4800.0
12.5°	4747.7	4741.9	4718.6	4678.0	4666.3
15°	4619.8	4619.8	4573.4	4526.9	4509.4
17.5°	4480.4	4474.6	4416.5	4370.0	4346.7
20°	4329.3	4317.7	4259.6	4184.0	4143.3
22.5°	4160.8	4160.8	4091.0	3992.2	3951.6
25°	4003.9	3980.6	3916.7	3777.2	3672.6
27.5°	3823.7	3788.9	3719.1	3521.5	3399.5
30°	3626.1	3608.7	3509.9	3254.2	3161.3
32.5°	3440.2	3411.1	3306.5	3039.2	2963.7
35°	3248.4	3225.2	3068.3	2835.8	2766.1
37.5°	3056.7	3027.6	2830.0	2644.1	2556.9
40°	2864.9	2830.0	2615.0	2446.5	2353.5
42.5°	2684.7	2638.3	2429.1	2248.9	2144.3
45°	2493.0	2440.7	2231.5	2045.5	1964.2
47.5°	2301.2	2254.7	2063.0	1871.2	1778.2
50°	2097.8	2057.1	1882.8	1691.0	1592.2
52.5°	1929.3	1865.4	1696.8	1505.1	1423.7
55°	1731.7	1679.4	1522.5	1342.4	1272.6
57.5°	1551.6	1499.3	1354.0	1185.5	1127.4
60°	1383.0	1307.5	1185.5	1040.2	993.7
62.5°	1197.1	1139.0	1034.4	912.3	970.5
65°	1028.6	970.5	877.5	894.9	743.8
67.5°	842.6	813.6	732.2	650.8	627.6
70°	685.7	650.8	621.8	534.6	511.4
72.5°	546.2	511.4	470.7	424.2	406.8
75°	412.6	383.5	360.3	342.9	377.7
77.5°	284.7	273.1	255.7	238.3	232.4
80°	186.0	180.1	174.3	168.5	162.7
82.5°	110.4	110.4	110.4	110.4	110.4
85°	58.1	63.9	69.7	75.5	81.4
87.5°	34.9	34.9	40.7	46.5	52.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)