

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: P564196

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

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564196
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-LD4-4STD-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: 13544.0 lumens
Efficiency: N/A
Efficacy: 101.7 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

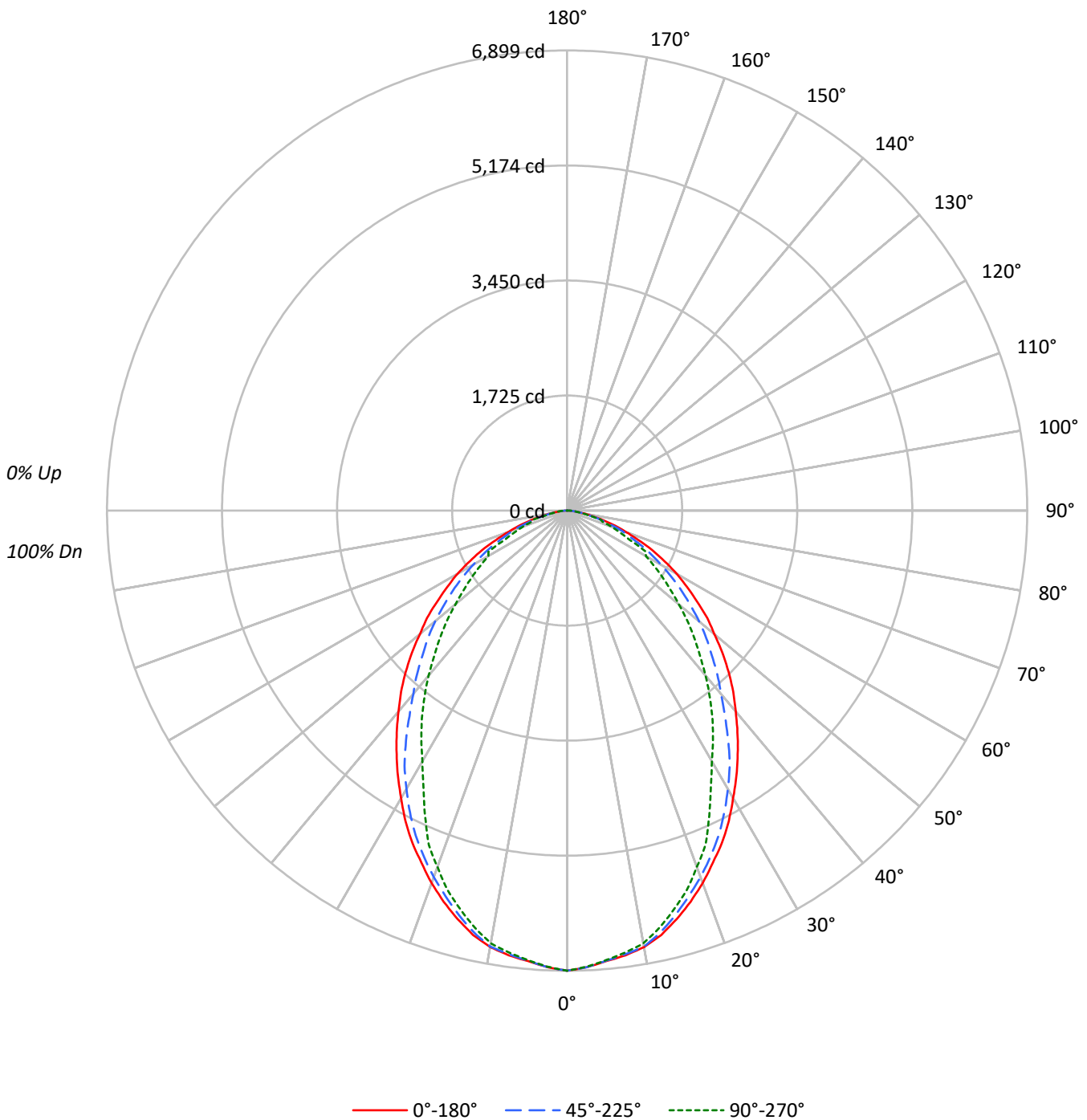
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9283	9283	9283
5°	9157	9146	9135
10°	9077	9066	9001
15°	8832	8744	8621
20°	8508	8371	8143
25°	8158	7981	7483
30°	7732	7484	6741
35°	7323	6917	6236
40°	6906	6304	5674
45°	6511	5828	5130
50°	6027	5409	4575
55°	5575	4902	4097
60°	5108	4378	3670
65°	4494	3834	3250
70°	3703	3357	2761
75°	2944	2571	2695
80°	1977	1854	1730
85°	1232	1477	1724

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6511 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	642.2	4.7
10°-20°	1762.5	13.0
20°-30°	2440.1	18.0
30°-40°	2601.8	19.2
40°-50°	2373.6	17.5
50°-60°	1859.6	13.7
60°-70°	1212.0	8.9
70°-80°	536.9	4.0
80°-90°	115.3	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°	4844.8	35.8
0°-40°	7446.6	55.0
0°-60°	11679.8	86.2
0°-90°	13544.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13544.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6899	6899	6899	6899	6899	
5°	6780	6772	6772	6764	6764	644
15°	6341	6341	6277	6213	6189	1783
25°	5495	5464	5376	5184	5041	2523
35°	4458	4427	4211	3892	3796	2787
45°	3422	3350	3063	2808	2696	2636
55°	2377	2305	2090	1842	1747	2132
65°	1412	1332	1204	1228	1021	1391
75°	566	526	494	471	518	607
85°	80	88	96	104	112	111
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6899.1	6899.1	6899.1	6899.1	6899.1
2.5°	6851.3	6851.3	6851.3	6843.3	6843.3
5°	6779.5	6771.5	6771.5	6763.5	6763.5
7.5°	6723.7	6715.7	6707.7	6699.7	6683.8
10°	6643.9	6643.9	6635.9	6596.0	6588.1
12.5°	6516.3	6508.3	6476.4	6420.6	6404.6
15°	6340.8	6340.8	6277.0	6213.2	6189.3
17.5°	6149.4	6141.4	6061.7	5997.9	5966.0
20°	5942.0	5926.1	5846.3	5742.6	5686.8
22.5°	5710.7	5710.7	5615.0	5479.4	5423.6
25°	5495.4	5463.5	5375.7	5184.3	5040.8
27.5°	5248.1	5200.3	5104.6	4833.4	4665.9
30°	4976.9	4953.0	4817.4	4466.5	4338.9
32.5°	4721.7	4681.8	4538.3	4171.4	4067.7
35°	4458.5	4426.6	4211.3	3892.2	3796.5
37.5°	4195.3	4155.4	3884.3	3629.0	3509.4
40°	3932.1	3884.3	3589.1	3357.8	3230.2
42.5°	3684.9	3621.0	3333.9	3086.7	2943.1
45°	3421.7	3349.9	3062.7	2807.5	2695.8
47.5°	3158.4	3094.6	2831.4	2568.2	2440.6
50°	2879.3	2823.5	2584.2	2321.0	2185.4
52.5°	2648.0	2560.3	2329.0	2065.8	1954.1
55°	2376.8	2305.0	2089.7	1842.4	1746.7
57.5°	2129.6	2057.8	1858.4	1627.1	1547.3
60°	1898.3	1794.6	1627.1	1427.7	1363.9
62.5°	1643.0	1563.3	1419.7	1252.2	1332.0
65°	1411.7	1332.0	1204.4	1228.3	1020.9
67.5°	1156.5	1116.6	1005.0	893.3	861.4
70°	941.2	893.3	853.4	733.8	701.9
72.5°	749.7	701.9	646.0	582.2	558.3
75°	566.3	526.4	494.5	470.6	518.4
77.5°	390.8	374.9	350.9	327.0	319.0
80°	255.2	247.3	239.3	231.3	223.3
82.5°	151.5	151.5	151.5	151.5	151.5
85°	79.8	87.7	95.7	103.7	111.7
87.5°	47.9	47.9	55.8	63.8	71.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)