

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: P563938

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563938
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-LD4-4LO-40-UNV-93-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9715.0 lumens
Efficiency: N/A
Efficacy: 103.8 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

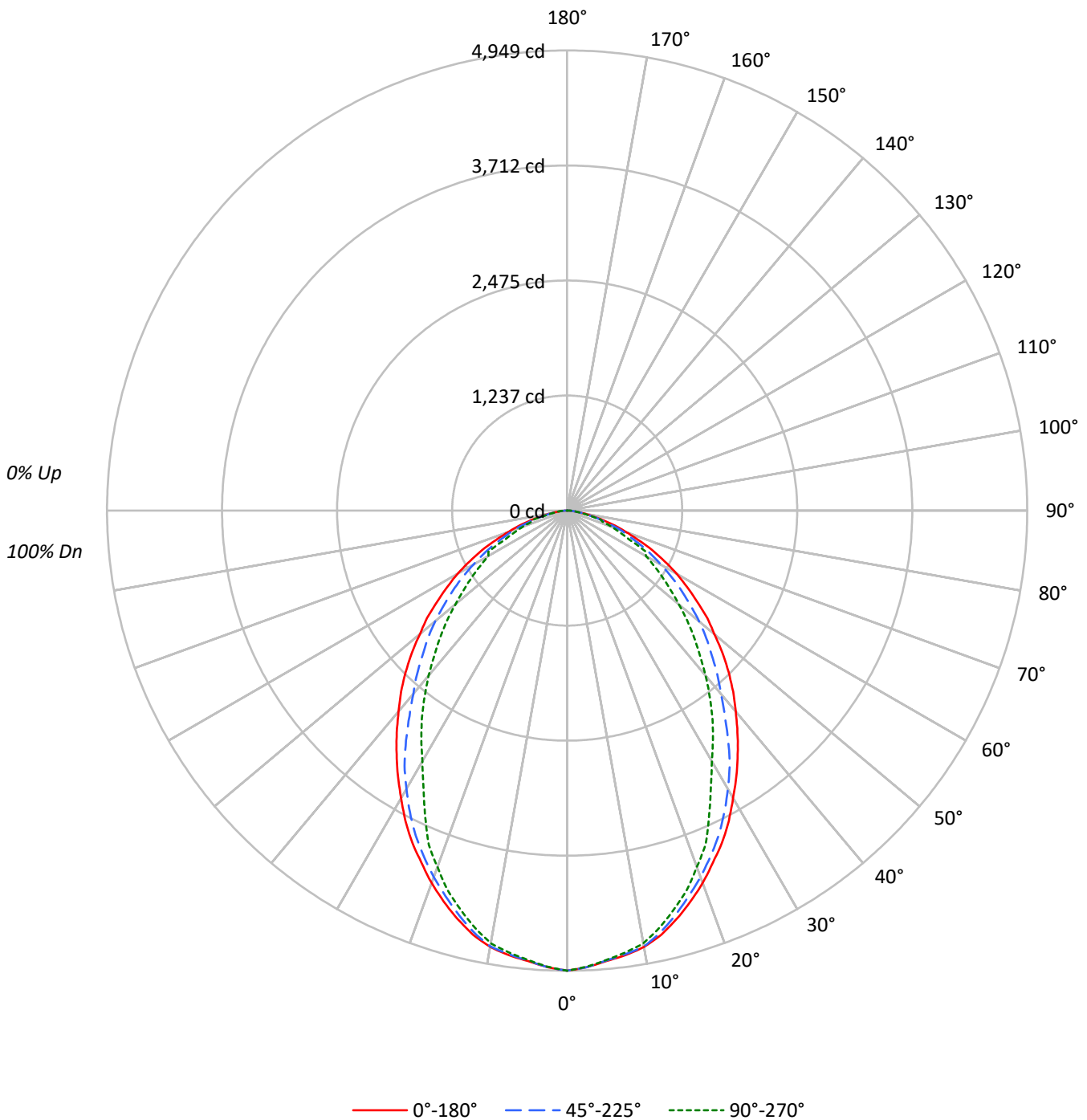
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6658	6658	6658
5°	6568	6560	6552
10°	6511	6503	6456
15°	6335	6272	6184
20°	6103	6004	5841
25°	5852	5725	5368
30°	5546	5369	4835
35°	5253	4962	4473
40°	4954	4522	4070
45°	4670	4180	3679
50°	4323	3880	3281
55°	3999	3516	2939
60°	3664	3141	2633
65°	3224	2750	2331
70°	2656	2408	1981
75°	2112	1844	1933
80°	1419	1330	1241
85°	883	1061	1237

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4670 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	460.7	4.7
10°-20°	1264.2	13.0
20°-30°	1750.2	18.0
30°-40°	1866.3	19.2
40°-50°	1702.6	17.5
50°-60°	1333.8	13.7
60°-70°	869.3	8.9
70°-80°	385.2	4.0
80°-90°	82.7	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°	3475.1	35.8
0°-40°	5341.4	55.0
0°-60°	8377.8	86.2
0°-90°	9715.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9715.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4949	4949	4949	4949	4949	
5°	4863	4857	4857	4851	4851	462
15°	4548	4548	4502	4457	4440	1279
25°	3942	3919	3856	3719	3616	1810
35°	3198	3175	3021	2792	2723	1999
45°	2454	2403	2197	2014	1934	1891
55°	1705	1653	1499	1322	1253	1529
65°	1013	955	864	881	732	998
75°	406	378	355	338	372	435
85°	57	63	69	74	80	79
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4948.7	4948.7	4948.7	4948.7	4948.7
2.5°	4914.4	4914.4	4914.4	4908.6	4908.6
5°	4862.9	4857.2	4857.2	4851.4	4851.4
7.5°	4822.8	4817.1	4811.4	4805.7	4794.2
10°	4765.6	4765.6	4759.9	4731.3	4725.6
12.5°	4674.1	4668.4	4645.5	4605.4	4594.0
15°	4548.2	4548.2	4502.5	4456.7	4439.5
17.5°	4410.9	4405.2	4348.0	4302.2	4279.3
20°	4262.2	4250.7	4193.5	4119.1	4079.1
22.5°	4096.3	4096.3	4027.6	3930.3	3890.3
25°	3941.8	3918.9	3856.0	3718.7	3615.7
27.5°	3764.4	3730.1	3661.5	3466.9	3346.8
30°	3569.9	3552.8	3455.5	3203.8	3112.2
32.5°	3386.8	3358.2	3255.3	2992.1	2917.7
35°	3198.1	3175.2	3020.7	2791.9	2723.2
37.5°	3009.3	2980.7	2786.1	2603.1	2517.3
40°	2820.5	2786.1	2574.5	2408.6	2317.0
42.5°	2643.1	2597.3	2391.4	2214.0	2111.1
45°	2454.3	2402.8	2196.9	2013.8	1933.7
47.5°	2265.5	2219.8	2031.0	1842.2	1750.6
50°	2065.3	2025.2	1853.6	1664.8	1567.6
52.5°	1899.4	1836.5	1670.5	1481.7	1401.7
55°	1704.9	1653.4	1498.9	1321.6	1252.9
57.5°	1527.5	1476.0	1333.0	1167.1	1109.9
60°	1361.6	1287.2	1167.1	1024.1	978.3
62.5°	1178.5	1121.3	1018.3	898.2	955.4
65°	1012.6	955.4	863.9	881.0	732.3
67.5°	829.5	800.9	720.8	640.8	617.9
70°	675.1	640.8	612.2	526.3	503.5
72.5°	537.8	503.5	463.4	417.6	400.5
75°	406.2	377.6	354.7	337.5	371.9
77.5°	280.3	268.9	251.7	234.6	228.8
80°	183.1	177.4	171.6	165.9	160.2
82.5°	108.7	108.7	108.7	108.7	108.7
85°	57.2	62.9	68.7	74.4	80.1
87.5°	34.3	34.3	40.0	45.8	51.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)