

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: P563108

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563108
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11667.0 lumens
Efficiency: N/A
Efficacy: 90.0 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

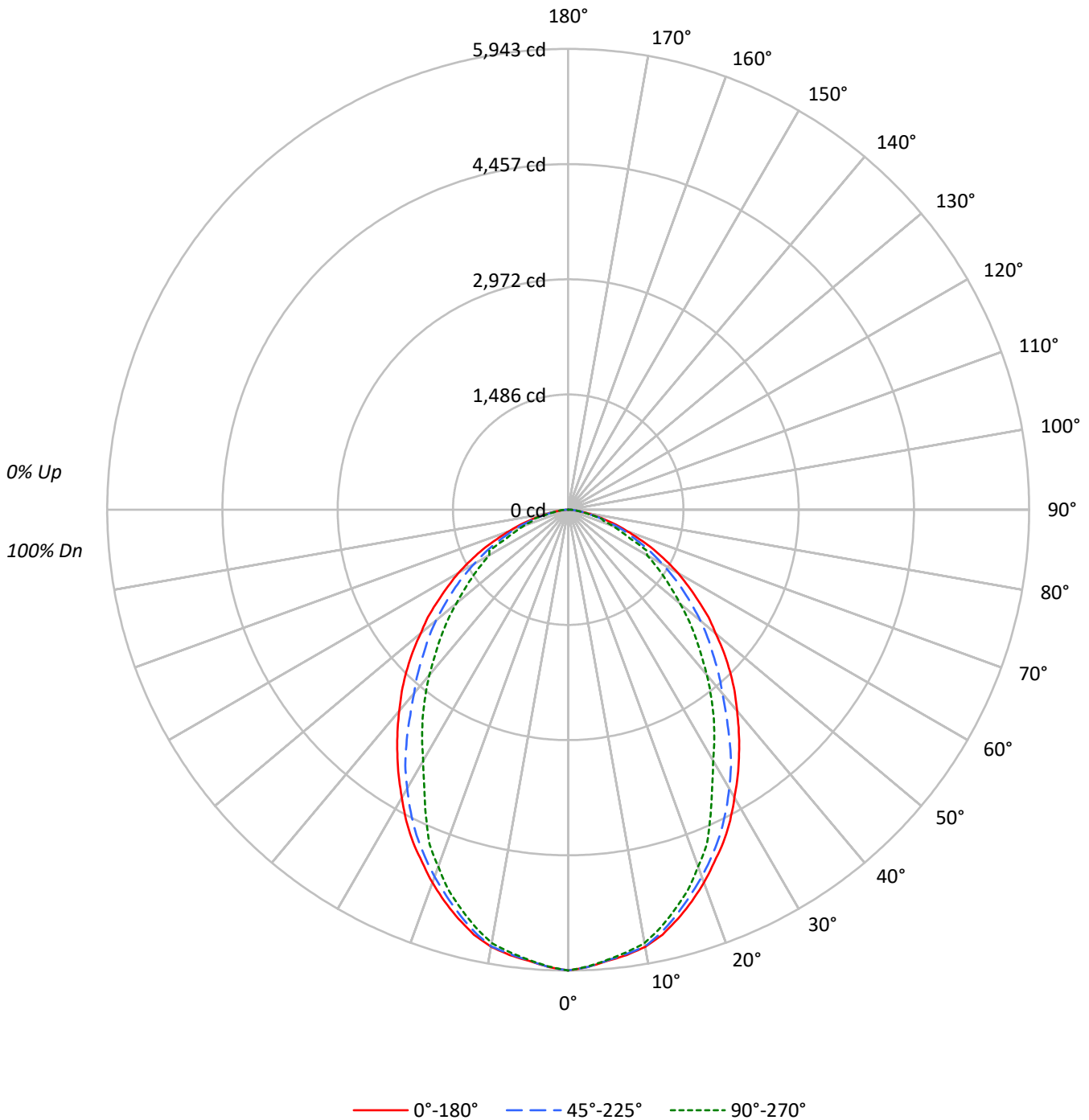
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7996	7996	7996
5°	7888	7878	7869
10°	7819	7810	7754
15°	7608	7532	7427
20°	7329	7211	7014
25°	7028	6875	6446
30°	6661	6447	5807
35°	6308	5958	5372
40°	5949	5430	4887
45°	5609	5020	4419
50°	5192	4660	3940
55°	4803	4223	3529
60°	4400	3772	3162
65°	3872	3303	2800
70°	3189	2892	2378
75°	2536	2215	2322
80°	1704	1597	1491
85°	1061	1272	1485

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5609 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	553.2	4.7
10°-20°	1518.2	13.0
20°-30°	2101.9	18.0
30°-40°	2241.3	19.2
40°-50°	2044.7	17.5
50°-60°	1601.8	13.7
60°-70°	1044.0	8.9
70°-80°	462.5	4.0
80°-90°	99.3	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°	4173.4	35.8
0°-40°	6414.6	55.0
0°-60°	10061.1	86.2
0°-90°	11667.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11667.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5943	5943	5943	5943	5943	
5°	5840	5833	5833	5826	5826	554
15°	5462	5462	5407	5352	5332	1536
25°	4734	4706	4631	4466	4342	2173
35°	3841	3813	3628	3353	3270	2401
45°	2948	2886	2638	2418	2322	2270
55°	2047	1986	1800	1587	1505	1836
65°	1216	1147	1038	1058	879	1198
75°	488	454	426	405	447	523
85°	69	76	82	89	96	95
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5943.0	5943.0	5943.0	5943.0	5943.0
2.5°	5901.8	5901.8	5901.8	5894.9	5894.9
5°	5840.0	5833.1	5833.1	5826.2	5826.2
7.5°	5791.9	5785.0	5778.1	5771.3	5757.5
10°	5723.2	5723.2	5716.3	5681.9	5675.1
12.5°	5613.2	5606.4	5578.9	5530.8	5517.0
15°	5462.1	5462.1	5407.1	5352.1	5331.5
17.5°	5297.2	5290.3	5221.6	5166.6	5139.2
20°	5118.5	5104.8	5036.1	4946.8	4898.7
22.5°	4919.3	4919.3	4836.9	4720.1	4672.0
25°	4733.8	4706.3	4630.7	4465.8	4342.2
27.5°	4520.8	4479.6	4397.1	4163.5	4019.3
30°	4287.2	4266.6	4149.8	3847.5	3737.6
32.5°	4067.4	4033.0	3909.3	3593.3	3504.0
35°	3840.6	3813.1	3627.6	3352.8	3270.4
37.5°	3613.9	3579.5	3346.0	3126.1	3023.0
40°	3387.2	3346.0	3091.7	2892.5	2782.6
42.5°	3174.2	3119.2	2871.9	2658.9	2535.2
45°	2947.5	2885.6	2638.3	2418.4	2322.2
47.5°	2720.7	2665.8	2439.0	2212.3	2102.4
50°	2480.3	2432.2	2226.1	1999.3	1882.5
52.5°	2281.0	2205.4	2006.2	1779.5	1683.3
55°	2047.4	1985.6	1800.1	1587.1	1504.6
57.5°	1834.4	1772.6	1600.8	1401.6	1332.9
60°	1635.2	1545.9	1401.6	1229.8	1174.9
62.5°	1415.3	1346.6	1223.0	1078.7	1147.4
65°	1216.1	1147.4	1037.5	1058.1	879.4
67.5°	996.2	961.9	865.7	769.5	742.0
70°	810.7	769.5	735.1	632.1	604.6
72.5°	645.8	604.6	556.5	501.5	480.9
75°	487.8	453.5	426.0	405.4	446.6
77.5°	336.7	322.9	302.3	281.7	274.8
80°	219.9	213.0	206.1	199.2	192.4
82.5°	130.5	130.5	130.5	130.5	130.5
85°	68.7	75.6	82.4	89.3	96.2
87.5°	41.2	41.2	48.1	55.0	61.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)