

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: P563101

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-82-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563101
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-82-96-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13237.0 lumens
Efficiency: N/A
Efficacy: 102.1 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

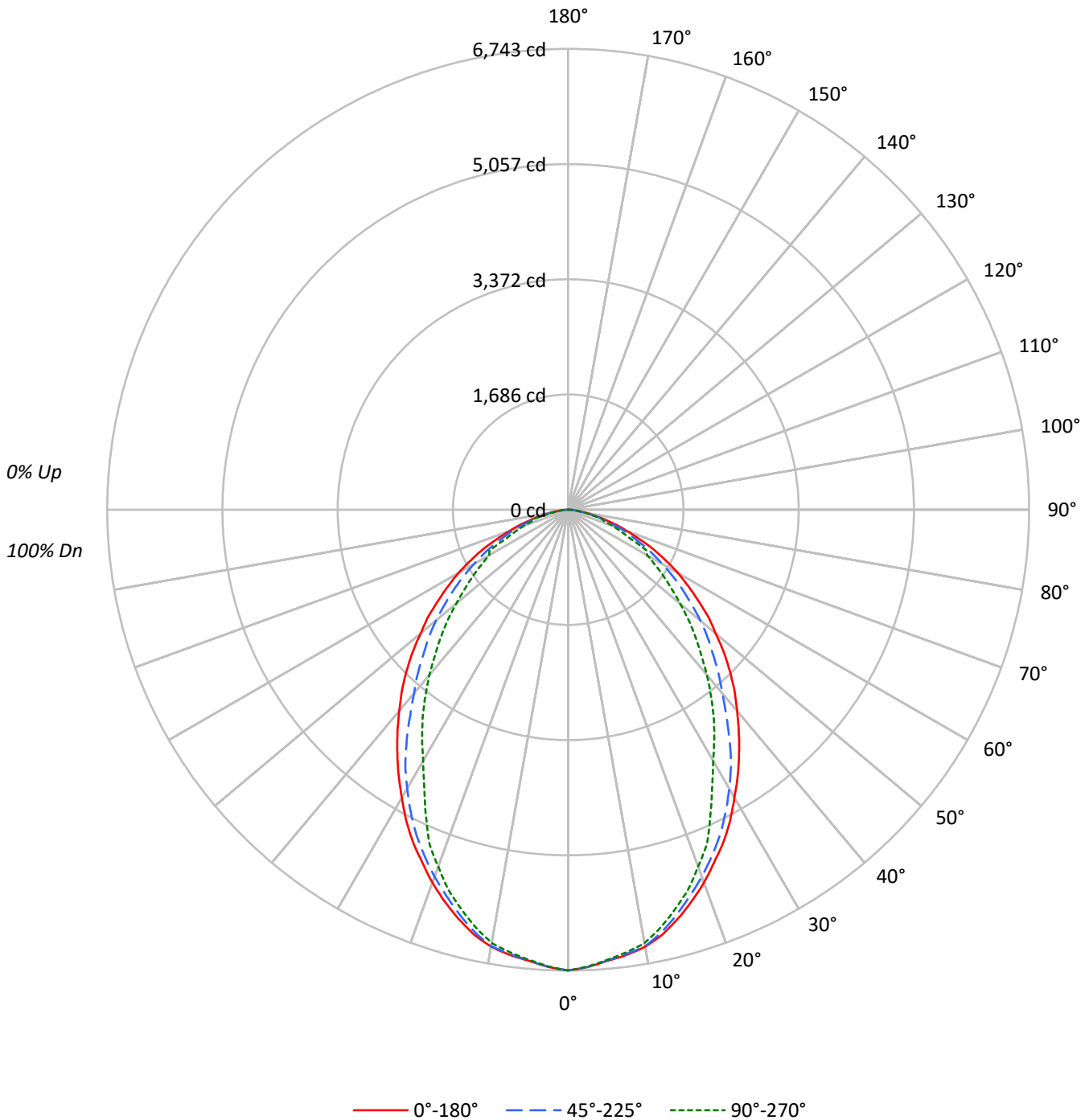
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				
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°	9072	9072	9072
5°	8949	8938	8928
10°	8871	8861	8797
15°	8632	8545	8426
20°	8315	8181	7958
25°	7973	7800	7314
30°	7557	7315	6588
35°	7157	6760	6095
40°	6750	6161	5545
45°	6363	5696	5013
50°	5890	5287	4471
55°	5449	4791	4004
60°	4992	4279	3587
65°	4393	3748	3177
70°	3618	3281	2699
75°	2877	2512	2634
80°	1932	1812	1691
85°	1204	1443	1684

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6363 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	627.7	4.7
10°-20°	1722.6	13.0
20°-30°	2384.8	18.0
30°-40°	2542.9	19.2
40°-50°	2319.8	17.5
50°-60°	1817.4	13.7
60°-70°	1184.5	8.9
70°-80°	524.8	4.0
80°-90°	112.7	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°	4735.0	35.8
0°-40°	7277.8	55.0
0°-60°	11415.1	86.2
0°-90°	13237.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13237.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6743	6743	6743	6743	6743	
5°	6626	6618	6618	6610	6610	629
15°	6197	6197	6135	6072	6049	1742
25°	5371	5340	5254	5067	4926	2466
35°	4358	4326	4116	3804	3710	2724
45°	3344	3274	2993	2744	2635	2576
55°	2323	2253	2042	1801	1707	2084
65°	1380	1302	1177	1200	998	1360
75°	554	514	483	460	507	593
85°	78	86	94	101	109	108
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6742.8	6742.8	6742.8	6742.8	6742.8
2.5°	6696.0	6696.0	6696.0	6688.2	6688.2
5°	6625.8	6618.0	6618.0	6610.2	6610.2
7.5°	6571.3	6563.5	6555.7	6547.9	6532.3
10°	6493.3	6493.3	6485.5	6446.5	6438.7
12.5°	6368.6	6360.8	6329.6	6275.0	6259.5
15°	6197.1	6197.1	6134.7	6072.4	6049.0
17.5°	6010.0	6002.2	5924.3	5861.9	5830.7
20°	5807.3	5791.8	5713.8	5612.5	5557.9
22.5°	5581.3	5581.3	5487.7	5355.2	5300.7
25°	5370.8	5339.6	5253.9	5066.8	4926.5
27.5°	5129.2	5082.4	4988.9	4723.8	4560.1
30°	4864.1	4840.7	4708.2	4365.2	4240.5
32.5°	4614.7	4575.7	4435.4	4076.8	3975.5
35°	4357.5	4326.3	4115.8	3804.0	3710.5
37.5°	4100.2	4061.2	3796.2	3546.8	3429.8
40°	3843.0	3796.2	3507.8	3281.7	3157.0
42.5°	3601.3	3539.0	3258.3	3016.7	2876.4
45°	3344.1	3273.9	2993.3	2743.9	2634.7
47.5°	3086.9	3024.5	2767.3	2510.0	2385.3
50°	2814.0	2759.5	2525.6	2268.4	2135.9
52.5°	2588.0	2502.2	2276.2	2018.9	1909.8
55°	2322.9	2252.8	2042.3	1800.7	1707.1
57.5°	2081.3	2011.1	1816.3	1590.2	1512.2
60°	1855.2	1753.9	1590.2	1395.3	1333.0
62.5°	1605.8	1527.8	1387.5	1223.8	1301.8
65°	1379.7	1301.8	1177.1	1200.4	997.8
67.5°	1130.3	1091.3	982.2	873.0	841.9
70°	919.8	873.0	834.1	717.1	686.0
72.5°	732.7	686.0	631.4	569.0	545.7
75°	553.5	514.5	483.3	459.9	506.7
77.5°	382.0	366.4	343.0	319.6	311.8
80°	249.4	241.6	233.9	226.1	218.3
82.5°	148.1	148.1	148.1	148.1	148.1
85°	78.0	85.7	93.5	101.3	109.1
87.5°	46.8	46.8	54.6	62.4	70.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)