

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: P564199

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-93-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564199
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-93-87-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15063.0 lumens
Efficiency: N/A
Efficacy: 113.1 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

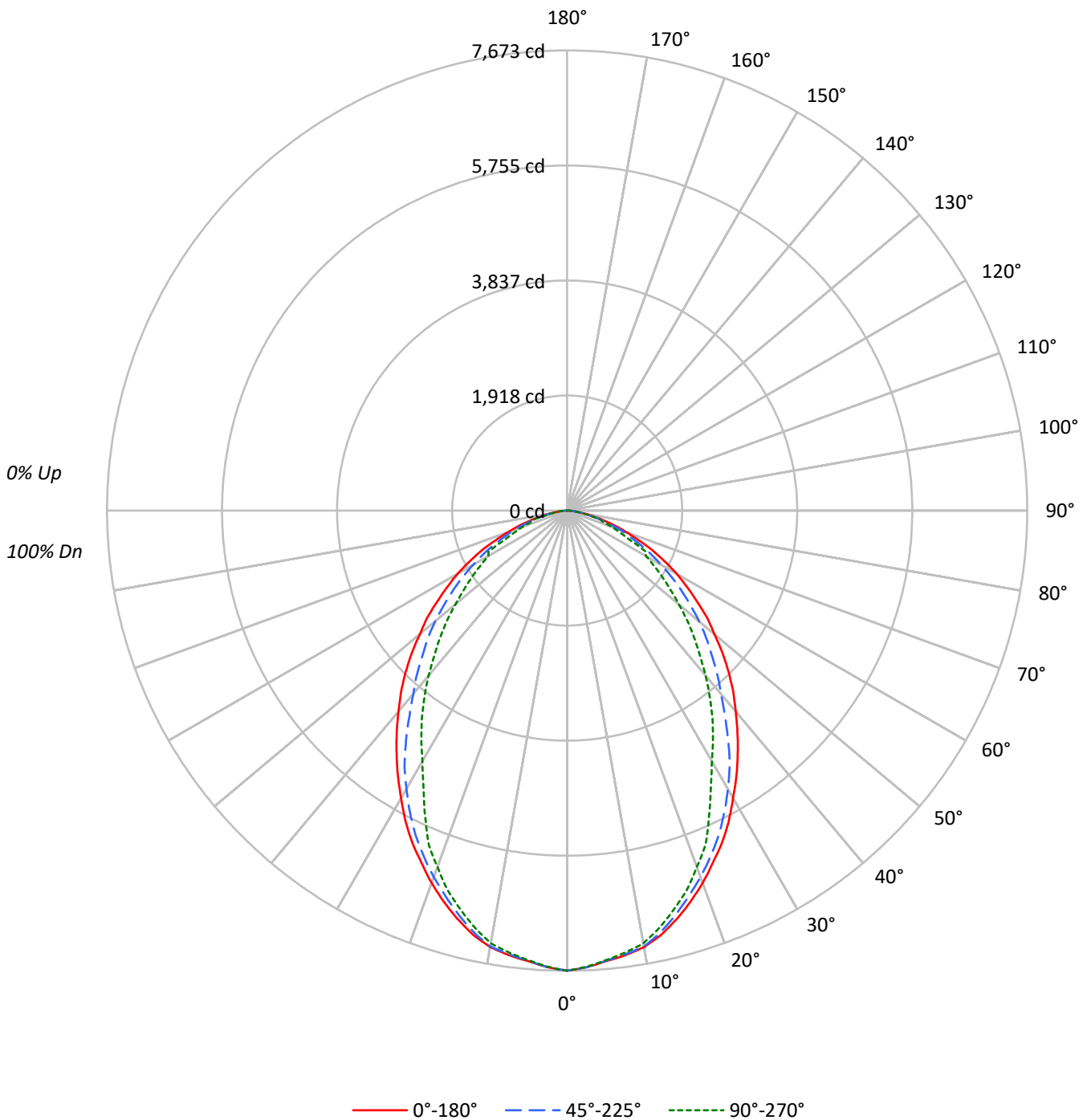
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	10324	10324	10324
5°	10183	10172	10160
10°	10095	10083	10010
15°	9823	9724	9588
20°	9462	9310	9056
25°	9073	8876	8323
30°	8600	8324	7497
35°	8145	7693	6935
40°	7681	7011	6310
45°	7241	6481	5705
50°	6703	6016	5088
55°	6201	5452	4557
60°	5681	4870	4082
65°	4999	4264	3615
70°	4118	3734	3071
75°	3274	2859	2997
80°	2200	2062	1925
85°	1369	1643	1917

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7241 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	714.2	4.7
10°-20°	1960.2	13.0
20°-30°	2713.7	18.0
30°-40°	2893.6	19.2
40°-50°	2639.8	17.5
50°-60°	2068.1	13.7
60°-70°	1347.9	8.9
70°-80°	597.2	4.0
80°-90°	128.2	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°	5388.2	35.8
0°-40°	8281.8	55.0
0°-60°	12989.7	86.2
0°-90°	15063.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15063.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7673	7673	7673	7673	7673	
5°	7540	7531	7531	7522	7522	716
15°	7052	7052	6981	6910	6883	1983
25°	6112	6076	5979	5766	5606	2806
35°	4959	4923	4684	4329	4222	3100
45°	3805	3726	3406	3122	2998	2931
55°	2643	2564	2324	2049	1943	2371
65°	1570	1481	1339	1366	1135	1547
75°	630	585	550	523	577	675
85°	89	98	106	115	124	123
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7672.9	7672.9	7672.9	7672.9	7672.9
2.5°	7619.7	7619.7	7619.7	7610.8	7610.8
5°	7539.8	7531.0	7531.0	7522.1	7522.1
7.5°	7477.7	7468.9	7460.0	7451.1	7433.4
10°	7389.0	7389.0	7380.2	7335.8	7326.9
12.5°	7247.1	7238.2	7202.8	7140.7	7122.9
15°	7052.0	7052.0	6981.0	6910.0	6883.4
17.5°	6839.1	6830.2	6741.5	6670.5	6635.1
20°	6608.4	6590.7	6502.0	6386.7	6324.6
22.5°	6351.2	6351.2	6244.8	6094.0	6031.9
25°	6111.7	6076.2	5978.6	5765.8	5606.1
27.5°	5836.7	5783.5	5677.1	5375.5	5189.2
30°	5535.1	5508.5	5357.7	4967.4	4825.5
32.5°	5251.3	5206.9	5047.3	4639.2	4523.9
35°	4958.6	4923.1	4683.6	4328.8	4222.3
37.5°	4665.8	4621.5	4319.9	4036.0	3903.0
40°	4373.1	4319.9	3991.7	3734.4	3592.5
42.5°	4098.1	4027.2	3707.8	3432.8	3273.2
45°	3805.4	3725.6	3406.2	3122.4	2998.2
47.5°	3512.7	3441.7	3149.0	2856.3	2714.3
50°	3202.2	3140.1	2874.0	2581.3	2430.5
52.5°	2945.0	2847.4	2590.2	2297.4	2173.2
55°	2643.4	2563.5	2324.0	2049.1	1942.6
57.5°	2368.4	2288.6	2066.8	1809.6	1720.9
60°	2111.2	1995.8	1809.6	1587.8	1516.8
62.5°	1827.3	1738.6	1578.9	1392.7	1481.4
65°	1570.1	1481.4	1339.4	1366.0	1135.4
67.5°	1286.2	1241.9	1117.7	993.5	958.0
70°	1046.7	993.5	949.1	816.1	780.6
72.5°	833.8	780.6	718.5	647.5	620.9
75°	629.8	585.4	550.0	523.4	576.6
77.5°	434.6	416.9	390.3	363.7	354.8
80°	283.9	275.0	266.1	257.2	248.4
82.5°	168.5	168.5	168.5	168.5	168.5
85°	88.7	97.6	106.4	115.3	124.2
87.5°	53.2	53.2	62.1	71.0	79.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)