

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: P564002

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564002
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-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10230.0 lumens
Efficiency: N/A
Efficacy: 109.3 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

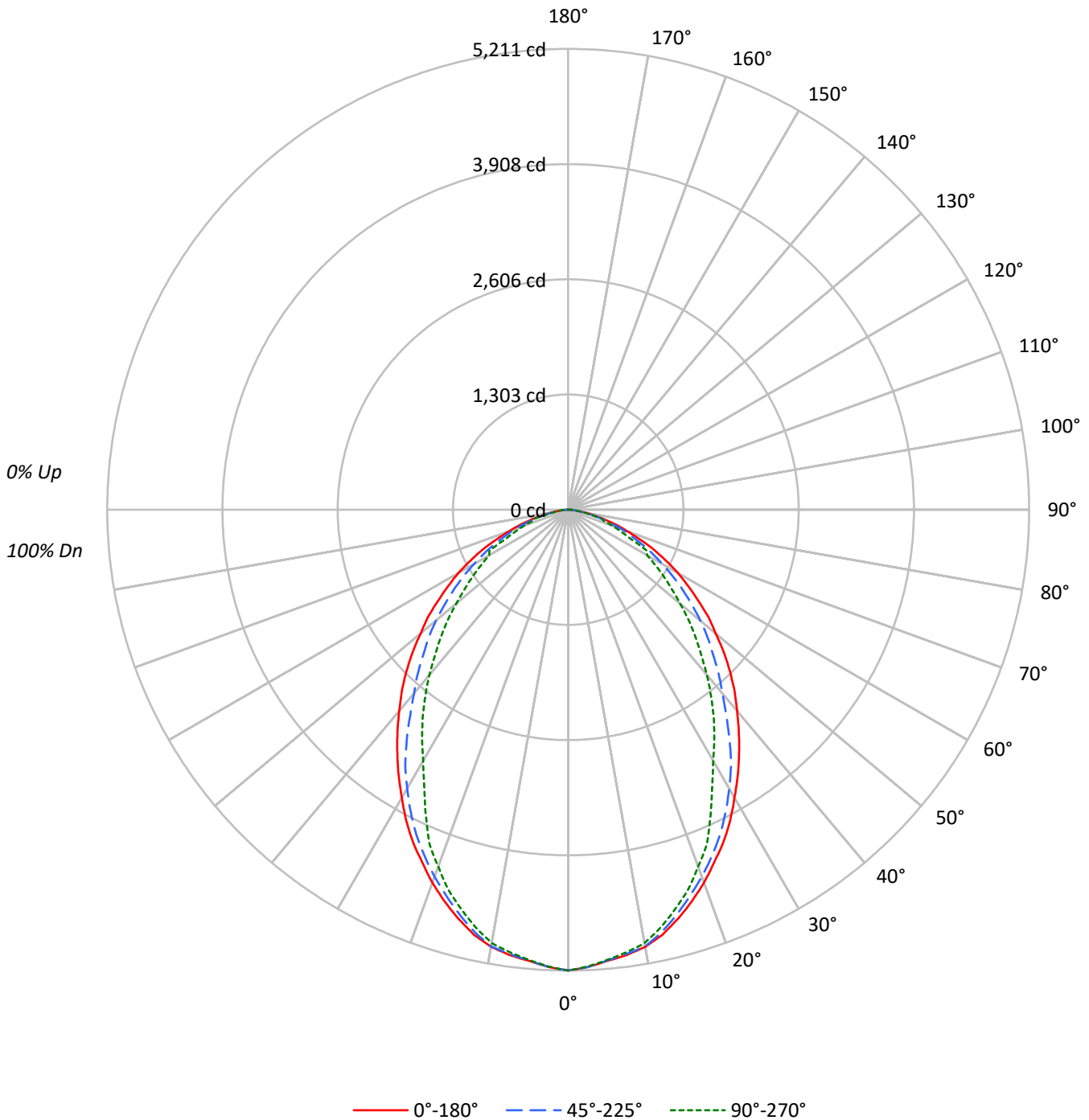
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7011	7011	7011
5°	6916	6908	6900
10°	6856	6848	6799
15°	6671	6604	6512
20°	6426	6323	6150
25°	6162	6028	5652
30°	5840	5653	5092
35°	5531	5225	4710
40°	5217	4761	4285
45°	4918	4402	3875
50°	4552	4086	3455
55°	4211	3703	3095
60°	3858	3307	2772
65°	3395	2896	2455
70°	2797	2536	2085
75°	2223	1942	2036
80°	1494	1400	1307
85°	929	1116	1301

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4918 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	485.1	4.7
10°-20°	1331.2	13.0
20°-30°	1843.0	18.0
30°-40°	1965.2	19.2
40°-50°	1792.8	17.5
50°-60°	1404.6	13.7
60°-70°	915.4	8.9
70°-80°	405.6	4.0
80°-90°	87.1	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°	3659.4	35.8
0°-40°	5624.6	55.0
0°-60°	8821.9	86.2
0°-90°	10230.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10230.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5211	5211	5211	5211	5211	
5°	5121	5115	5115	5109	5109	486
15°	4789	4789	4741	4693	4675	1346
25°	4151	4127	4060	3916	3807	1906
35°	3368	3344	3181	2940	2868	2105
45°	2584	2530	2313	2121	2036	1991
55°	1795	1741	1578	1392	1319	1610
65°	1066	1006	910	928	771	1051
75°	428	398	374	355	392	458
85°	60	66	72	78	84	84
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5211.0	5211.0	5211.0	5211.0	5211.0
2.5°	5174.9	5174.9	5174.9	5168.9	5168.9
5°	5120.7	5114.6	5114.6	5108.6	5108.6
7.5°	5078.5	5072.5	5066.4	5060.4	5048.4
10°	5018.2	5018.2	5012.2	4982.1	4976.1
12.5°	4921.9	4915.8	4891.7	4849.6	4837.5
15°	4789.3	4789.3	4741.1	4692.9	4674.9
17.5°	4644.7	4638.7	4578.5	4530.3	4506.2
20°	4488.1	4476.1	4415.8	4337.5	4295.3
22.5°	4313.4	4313.4	4241.1	4138.7	4096.5
25°	4150.7	4126.7	4060.4	3915.8	3807.4
27.5°	3964.0	3927.8	3855.6	3650.7	3524.2
30°	3759.2	3741.1	3638.7	3373.6	3277.2
32.5°	3566.4	3536.3	3427.8	3150.7	3072.4
35°	3367.6	3343.5	3180.8	2939.9	2867.6
37.5°	3168.8	3138.7	2933.8	2741.1	2650.7
40°	2970.0	2933.8	2710.9	2536.2	2439.8
42.5°	2783.2	2735.0	2518.2	2331.4	2223.0
45°	2584.4	2530.2	2313.3	2120.6	2036.2
47.5°	2385.6	2337.4	2138.6	1939.8	1843.4
50°	2174.8	2132.6	1951.9	1753.1	1650.7
52.5°	2000.1	1933.8	1759.1	1560.3	1476.0
55°	1795.2	1741.0	1578.4	1391.6	1319.3
57.5°	1608.5	1554.3	1403.7	1229.0	1168.7
60°	1433.8	1355.5	1229.0	1078.4	1030.2
62.5°	1241.0	1180.8	1072.3	945.8	1006.1
65°	1066.3	1006.1	909.7	927.7	771.1
67.5°	873.5	843.4	759.1	674.7	650.6
70°	710.9	674.7	644.6	554.2	530.1
72.5°	566.3	530.1	488.0	439.8	421.7
75°	427.7	397.6	373.5	355.4	391.6
77.5°	295.2	283.1	265.1	247.0	241.0
80°	192.8	186.8	180.7	174.7	168.7
82.5°	114.5	114.5	114.5	114.5	114.5
85°	60.2	66.3	72.3	78.3	84.3
87.5°	36.1	36.1	42.2	48.2	54.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)