

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: P563943

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-93-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563943
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-93-87-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11061.0 lumens
Efficiency: N/A
Efficacy: 118.2 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

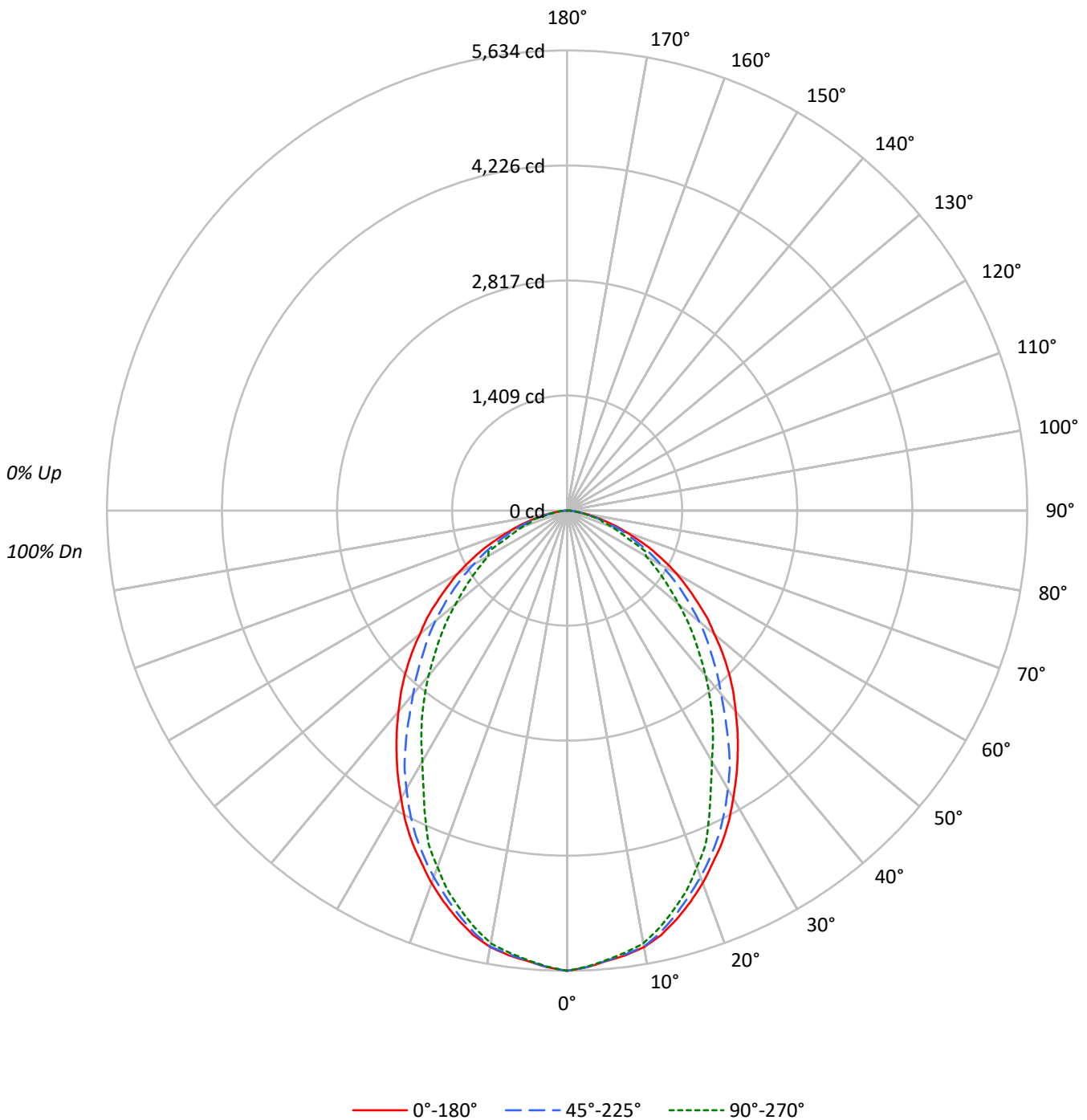
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7581	7581	7581
5°	7478	7469	7460
10°	7413	7404	7351
15°	7213	7141	7041
20°	6948	6836	6650
25°	6663	6518	6111
30°	6315	6112	5505
35°	5981	5649	5093
40°	5640	5148	4633
45°	5317	4759	4189
50°	4922	4418	3736
55°	4553	4003	3346
60°	4172	3576	2997
65°	3670	3131	2654
70°	3024	2742	2255
75°	2404	2099	2201
80°	1615	1514	1413
85°	1005	1207	1408

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5317 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	524.5	4.7
10°-20°	1439.4	13.0
20°-30°	1992.7	18.0
30°-40°	2124.8	19.2
40°-50°	1938.5	17.5
50°-60°	1518.6	13.7
60°-70°	989.8	8.9
70°-80°	438.5	4.0
80°-90°	94.2	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°	3956.6	35.8
0°-40°	6081.5	55.0
0°-60°	9538.6	86.2
0°-90°	11061.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11061.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5634	5634	5634	5634	5634	
5°	5537	5530	5530	5524	5524	526
15°	5178	5178	5126	5074	5055	1456
25°	4488	4462	4390	4234	4117	2060
35°	3641	3615	3439	3179	3100	2276
45°	2794	2736	2501	2293	2202	2152
55°	1941	1882	1707	1505	1426	1741
65°	1153	1088	984	1003	834	1136
75°	462	430	404	384	423	496
85°	65	72	78	85	91	90
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5634.3	5634.3	5634.3	5634.3	5634.3
2.5°	5595.2	5595.2	5595.2	5588.7	5588.7
5°	5536.6	5530.1	5530.1	5523.6	5523.6
7.5°	5491.0	5484.5	5478.0	5471.5	5458.5
10°	5425.9	5425.9	5419.4	5386.8	5380.3
12.5°	5321.7	5315.2	5289.1	5243.5	5230.5
15°	5178.4	5178.4	5126.3	5074.1	5054.6
17.5°	5022.0	5015.5	4950.4	4898.3	4872.2
20°	4852.7	4839.7	4774.5	4689.8	4644.2
22.5°	4663.8	4663.8	4585.6	4474.9	4429.3
25°	4487.9	4461.9	4390.2	4233.9	4116.6
27.5°	4286.0	4246.9	4168.7	3947.3	3810.5
30°	4064.5	4045.0	3934.3	3647.7	3543.4
32.5°	3856.1	3823.5	3706.3	3406.7	3322.0
35°	3641.1	3615.1	3439.2	3178.7	3100.5
37.5°	3426.2	3393.6	3172.2	2963.7	2866.0
40°	3211.2	3172.2	2931.2	2742.3	2638.0
42.5°	3009.3	2957.2	2722.7	2520.8	2403.5
45°	2794.4	2735.7	2501.2	2292.8	2201.6
47.5°	2579.4	2527.3	2312.4	2097.4	1993.2
50°	2351.4	2305.8	2110.4	1895.5	1784.7
52.5°	2162.5	2090.9	1902.0	1687.0	1595.8
55°	1941.1	1882.5	1706.6	1504.7	1426.5
57.5°	1739.2	1680.5	1517.7	1328.8	1263.7
60°	1550.3	1465.6	1328.8	1165.9	1113.8
62.5°	1341.8	1276.7	1159.4	1022.6	1087.8
65°	1152.9	1087.8	983.6	1003.1	833.7
67.5°	944.5	911.9	820.7	729.5	703.5
70°	768.6	729.5	697.0	599.3	573.2
72.5°	612.3	573.2	527.6	475.5	456.0
75°	462.5	429.9	403.8	384.3	423.4
77.5°	319.2	306.1	286.6	267.1	260.5
80°	208.4	201.9	195.4	188.9	182.4
82.5°	123.8	123.8	123.8	123.8	123.8
85°	65.1	71.7	78.2	84.7	91.2
87.5°	39.1	39.1	45.6	52.1	58.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)