

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: P564124

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-82-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564124
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-40-UNV-82-96-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12211.0 lumens
Efficiency: N/A
Efficacy: 91.7 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

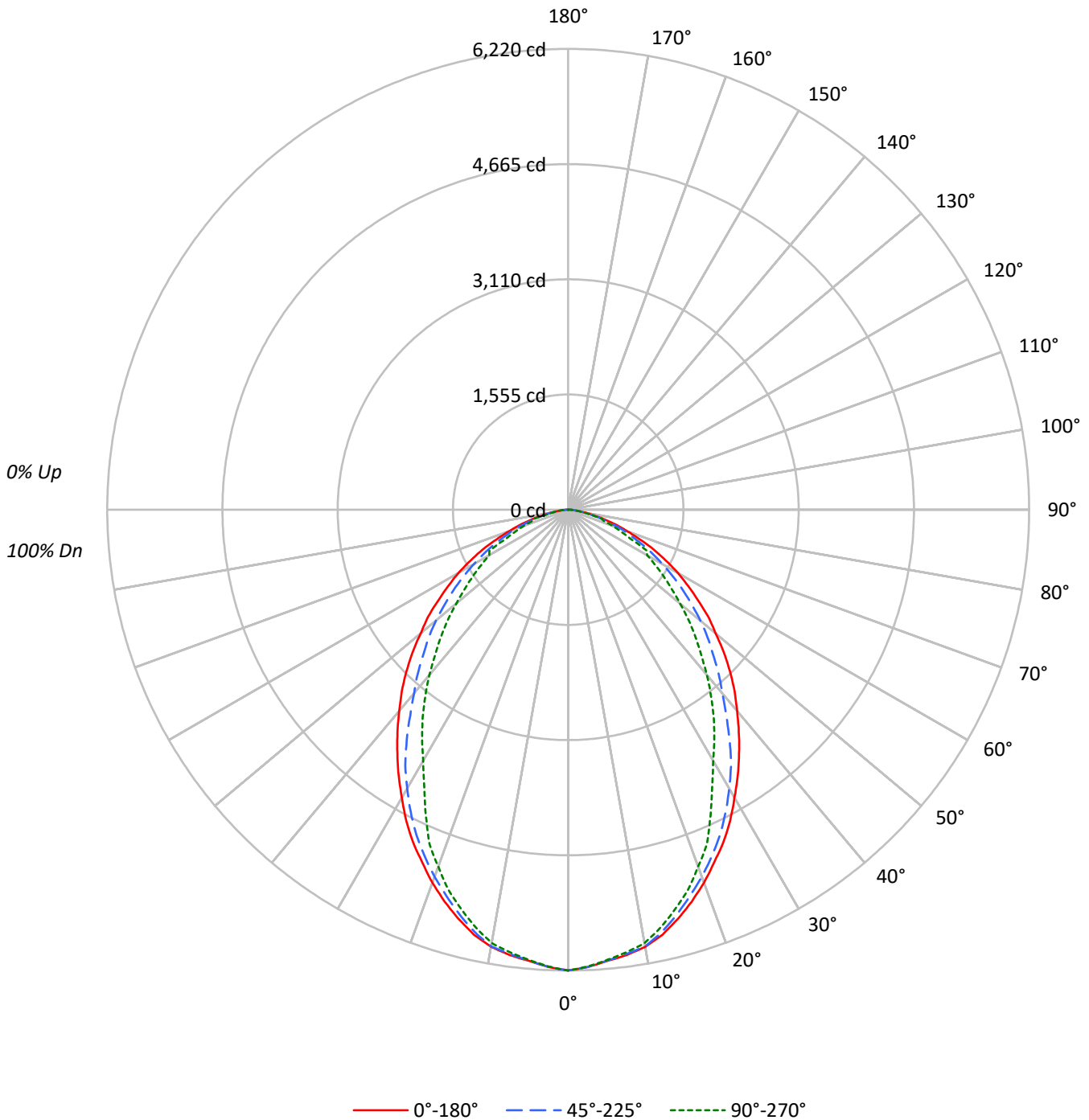
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8369	8369	8369
5°	8255	8246	8236
10°	8184	8174	8115
15°	7963	7883	7773
20°	7671	7547	7341
25°	7355	7195	6747
30°	6971	6748	6078
35°	6603	6236	5622
40°	6227	5684	5115
45°	5870	5254	4625
50°	5434	4877	4124
55°	5027	4419	3694
60°	4605	3947	3309
65°	4052	3457	2930
70°	3338	3027	2489
75°	2654	2318	2430
80°	1783	1671	1560
85°	1110	1332	1555

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5870 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	579.0	4.7
10°-20°	1589.0	13.0
20°-30°	2199.9	18.0
30°-40°	2345.8	19.2
40°-50°	2140.0	17.5
50°-60°	1676.5	13.7
60°-70°	1092.7	8.9
70°-80°	484.1	4.0
80°-90°	103.9	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°	4368.0	35.8
0°-40°	6713.7	55.0
0°-60°	10530.3	86.2
0°-90°	12211.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12211.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6220	6220	6220	6220	6220	
5°	6112	6105	6105	6098	6098	580
15°	5717	5717	5659	5602	5580	1607
25°	4954	4926	4847	4674	4545	2275
35°	4020	3991	3797	3509	3423	2513
45°	3085	3020	2761	2531	2430	2376
55°	2143	2078	1884	1661	1575	1922
65°	1273	1201	1086	1107	920	1254
75°	511	475	446	424	467	547
85°	72	79	86	94	101	100
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6220.1	6220.1	6220.1	6220.1	6220.1
2.5°	6177.0	6177.0	6177.0	6169.8	6169.8
5°	6112.3	6105.1	6105.1	6097.9	6097.9
7.5°	6061.9	6054.7	6047.5	6040.3	6026.0
10°	5990.0	5990.0	5982.8	5946.9	5939.7
12.5°	5875.0	5867.8	5839.0	5788.7	5774.3
15°	5716.8	5716.8	5659.2	5601.7	5580.1
17.5°	5544.2	5537.0	5465.1	5407.5	5378.8
20°	5357.2	5342.8	5270.9	5177.4	5127.1
22.5°	5148.7	5148.7	5062.4	4940.1	4889.8
25°	4954.5	4925.8	4846.7	4674.1	4544.6
27.5°	4731.6	4688.5	4602.2	4357.7	4206.7
30°	4487.1	4465.5	4343.3	4026.9	3911.8
32.5°	4257.0	4221.1	4091.6	3760.8	3667.4
35°	4019.7	3990.9	3796.8	3509.2	3422.9
37.5°	3782.4	3746.5	3502.0	3271.9	3164.0
40°	3545.1	3502.0	3235.9	3027.4	2912.3
42.5°	3322.2	3264.7	3005.8	2782.9	2653.4
45°	3084.9	3020.2	2761.3	2531.2	2430.5
47.5°	2847.6	2790.1	2552.8	2315.5	2200.4
50°	2595.9	2545.6	2329.8	2092.5	1970.3
52.5°	2387.4	2308.3	2099.7	1862.4	1761.8
55°	2142.9	2078.2	1884.0	1661.1	1574.8
57.5°	1920.0	1855.2	1675.5	1466.9	1395.0
60°	1711.4	1618.0	1466.9	1287.2	1229.6
62.5°	1481.3	1409.4	1280.0	1129.0	1200.9
65°	1272.8	1200.9	1085.8	1107.4	920.4
67.5°	1042.7	1006.7	906.1	805.4	776.6
70°	848.5	805.4	769.4	661.6	632.8
72.5°	675.9	632.8	582.5	524.9	503.4
75°	510.6	474.6	445.8	424.3	467.4
77.5°	352.4	338.0	316.4	294.8	287.6
80°	230.1	222.9	215.7	208.5	201.3
82.5°	136.6	136.6	136.6	136.6	136.6
85°	71.9	79.1	86.3	93.5	100.7
87.5°	43.1	43.1	50.3	57.5	64.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)