

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: P561114

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-82-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561114
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-12-4-LD4-1LO-50-UNV-82-94-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2066.0 lumens
Efficiency: N/A
Efficacy: 88.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

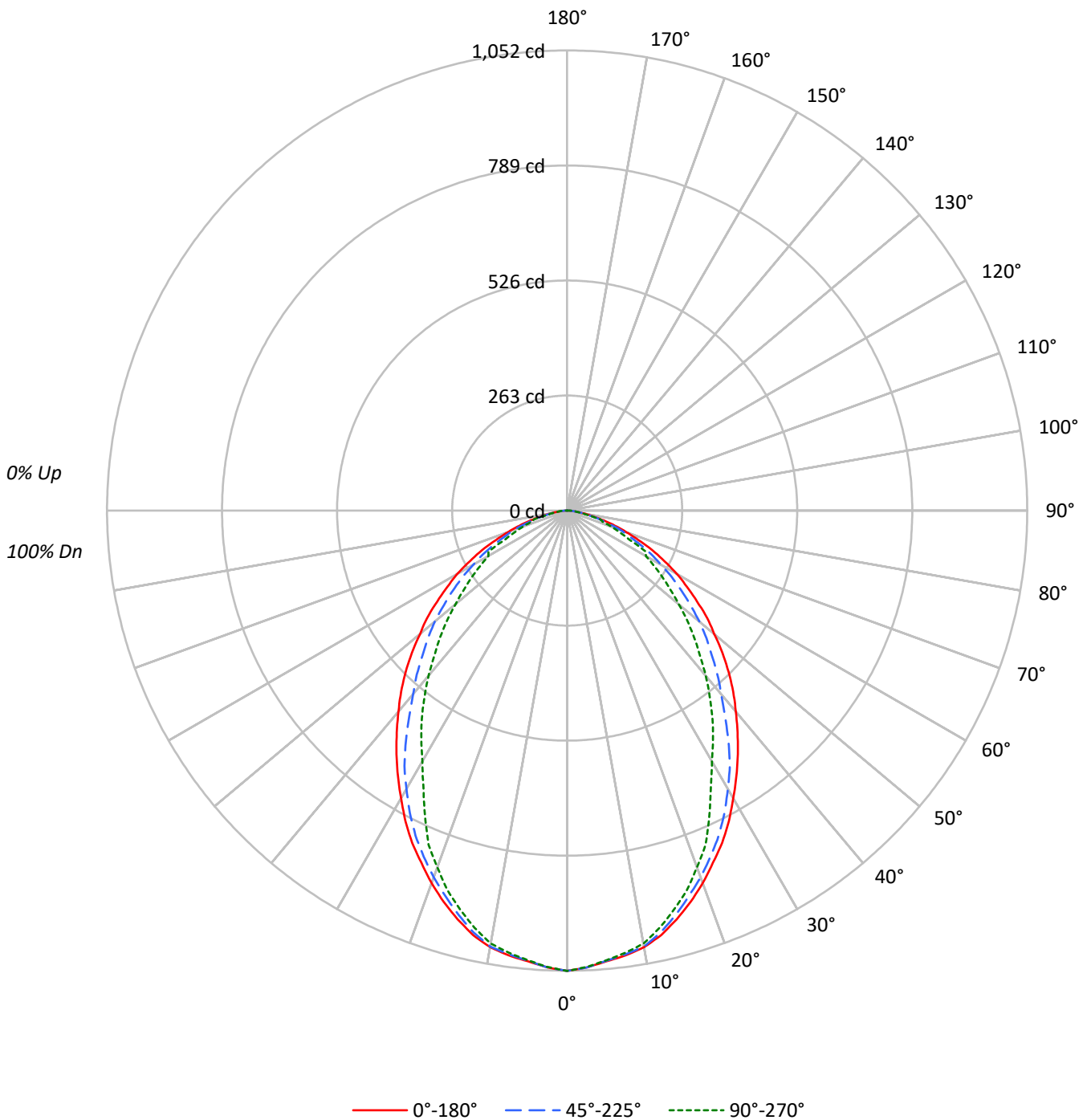
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2832	2832	2832
5°	2793	2790	2787
10°	2769	2766	2746
15°	2695	2668	2630
20°	2596	2554	2484
25°	2489	2435	2283
30°	2359	2283	2057
35°	2234	2110	1902
40°	2107	1923	1731
45°	1986	1778	1565
50°	1839	1650	1396
55°	1701	1496	1250
60°	1559	1336	1119
65°	1371	1170	991
70°	1130	1024	843
75°	898	784	822
80°	603	566	528
85°	377	451	525

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1986 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.0	4.7
10°-20°	268.9	13.0
20°-30°	372.2	18.0
30°-40°	396.9	19.2
40°-50°	362.1	17.5
50°-60°	283.7	13.7
60°-70°	184.9	8.9
70°-80°	81.9	4.0
80°-90°	17.6	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°	739.0	35.8
0°-40°	1135.9	55.0
0°-60°	1781.6	86.2
0°-90°	2066.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2066.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1052	1052	1052	1052	1052	
5°	1034	1033	1033	1032	1032	98
15°	967	967	958	948	944	272
25°	838	833	820	791	769	385
35°	680	675	642	594	579	425
45°	522	511	467	428	411	402
55°	363	352	319	281	266	325
65°	215	203	184	187	156	212
75°	86	80	75	72	79	93
85°	12	13	15	16	17	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1052.4	1052.4	1052.4	1052.4	1052.4
2.5°	1045.1	1045.1	1045.1	1043.9	1043.9
5°	1034.1	1032.9	1032.9	1031.7	1031.7
7.5°	1025.6	1024.4	1023.2	1022.0	1019.5
10°	1013.5	1013.5	1012.2	1006.2	1004.9
12.5°	994.0	992.8	987.9	979.4	977.0
15°	967.2	967.2	957.5	947.8	944.1
17.5°	938.0	936.8	924.6	914.9	910.0
20°	906.4	904.0	891.8	876.0	867.5
22.5°	871.1	871.1	856.5	835.8	827.3
25°	838.3	833.4	820.0	790.8	768.9
27.5°	800.5	793.2	778.6	737.3	711.7
30°	759.2	755.5	734.8	681.3	661.9
32.5°	720.3	714.2	692.3	636.3	620.5
35°	680.1	675.2	642.4	593.7	579.1
37.5°	640.0	633.9	592.5	553.6	535.3
40°	599.8	592.5	547.5	512.2	492.7
42.5°	562.1	552.4	508.6	470.8	448.9
45°	521.9	511.0	467.2	428.3	411.2
47.5°	481.8	472.1	431.9	391.8	372.3
50°	439.2	430.7	394.2	354.0	333.4
52.5°	403.9	390.5	355.3	315.1	298.1
55°	362.6	351.6	318.8	281.0	266.4
57.5°	324.8	313.9	283.5	248.2	236.0
60°	289.6	273.7	248.2	217.8	208.0
62.5°	250.6	238.5	216.6	191.0	203.2
65°	215.3	203.2	183.7	187.4	155.7
67.5°	176.4	170.3	153.3	136.3	131.4
70°	143.6	136.3	130.2	111.9	107.1
72.5°	114.4	107.1	98.5	88.8	85.2
75°	86.4	80.3	75.4	71.8	79.1
77.5°	59.6	57.2	53.5	49.9	48.7
80°	38.9	37.7	36.5	35.3	34.1
82.5°	23.1	23.1	23.1	23.1	23.1
85°	12.2	13.4	14.6	15.8	17.0
87.5°	7.3	7.3	8.5	9.7	10.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)