

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: P561090

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-81-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561090
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-81-85-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2064.0 lumens
Efficiency: N/A
Efficacy: 88.2 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

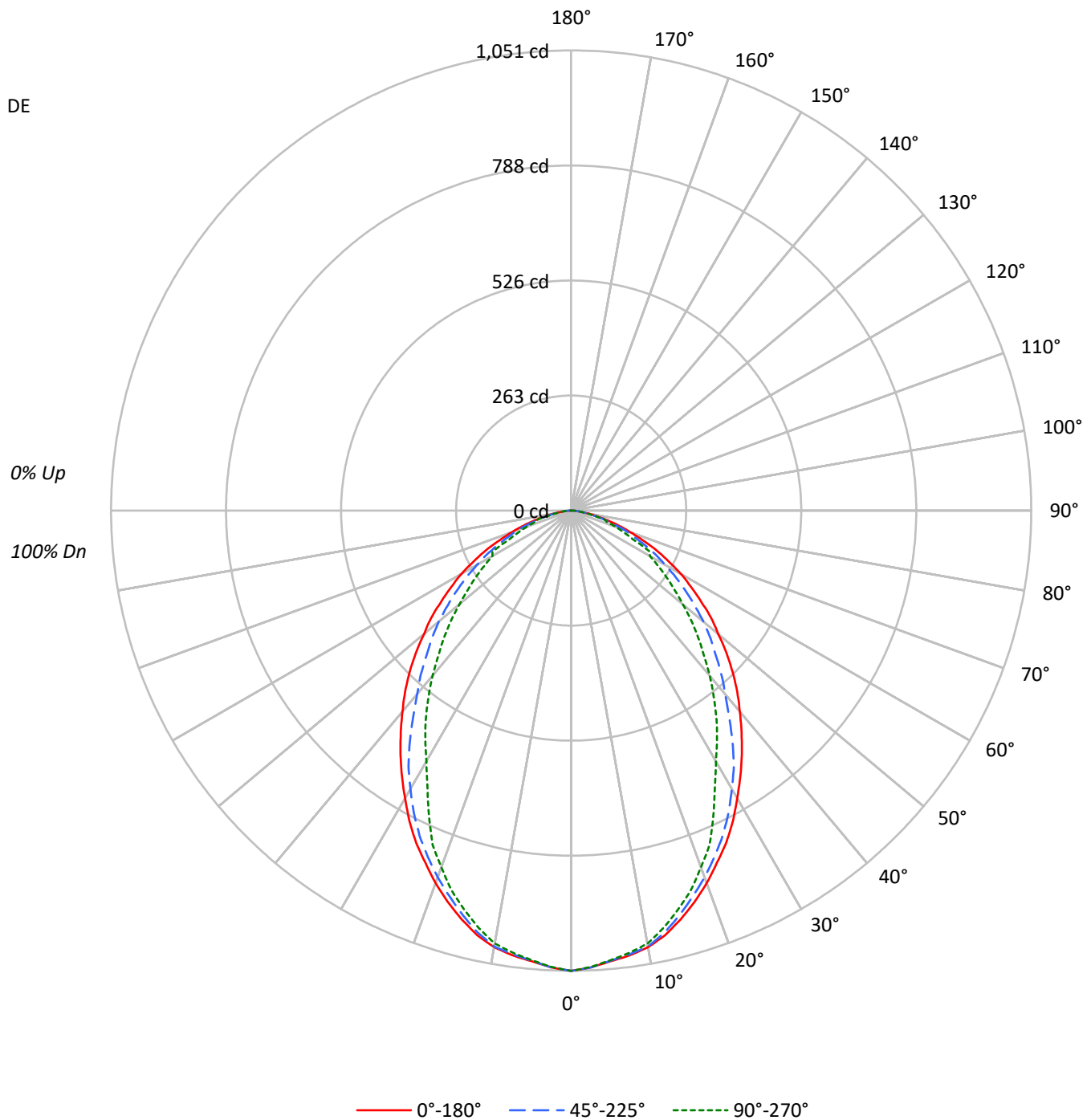
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2829	2829	2829
5°	2791	2787	2784
10°	2767	2763	2743
15°	2692	2665	2628
20°	2593	2551	2482
25°	2487	2432	2281
30°	2357	2281	2055
35°	2232	2108	1901
40°	2105	1922	1729
45°	1984	1776	1563
50°	1837	1649	1394
55°	1699	1494	1249
60°	1557	1335	1118
65°	1370	1168	991
70°	1128	1024	842
75°	897	784	821
80°	603	566	527
85°	377	451	525

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1984 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.9	4.7
10°-20°	268.6	13.0
20°-30°	371.8	18.0
30°-40°	396.5	19.2
40°-50°	361.7	17.5
50°-60°	283.4	13.7
60°-70°	184.7	8.9
70°-80°	81.8	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°	738.3	35.8
0°-40°	1134.8	55.0
0°-60°	1779.9	86.2
0°-90°	2064.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2064.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1051	1051	1051	1051	1051	
5°	1033	1032	1032	1031	1031	98
15°	966	966	957	947	943	272
25°	838	833	819	790	768	384
35°	679	675	642	593	579	425
45°	521	510	467	428	411	402
55°	362	351	318	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°	1051.4	1051.4	1051.4	1051.4	1051.4
2.5°	1044.1	1044.1	1044.1	1042.9	1042.9
5°	1033.1	1031.9	1031.9	1030.7	1030.7
7.5°	1024.6	1023.4	1022.2	1021.0	1018.6
10°	1012.5	1012.5	1011.3	1005.2	1004.0
12.5°	993.0	991.8	987.0	978.4	976.0
15°	966.3	966.3	956.6	946.8	943.2
17.5°	937.1	935.9	923.8	914.0	909.2
20°	905.5	903.1	890.9	875.1	866.6
22.5°	870.3	870.3	855.7	835.0	826.5
25°	837.5	832.6	819.2	790.0	768.2
27.5°	799.8	792.5	777.9	736.6	711.0
30°	758.4	754.8	734.1	680.7	661.2
32.5°	719.6	713.5	691.6	635.7	619.9
35°	679.4	674.6	641.8	593.1	578.6
37.5°	639.3	633.3	591.9	553.0	534.8
40°	599.2	591.9	547.0	511.7	492.3
42.5°	561.5	551.8	508.1	470.4	448.5
45°	521.4	510.5	466.7	427.8	410.8
47.5°	481.3	471.6	431.5	391.4	371.9
50°	438.8	430.3	393.8	353.7	333.0
52.5°	403.5	390.2	354.9	314.8	297.8
55°	362.2	351.3	318.5	280.8	266.2
57.5°	324.5	313.6	283.2	248.0	235.8
60°	289.3	273.5	248.0	217.6	207.8
62.5°	250.4	238.2	216.4	190.8	203.0
65°	215.1	203.0	183.5	187.2	155.6
67.5°	176.2	170.2	153.1	136.1	131.3
70°	143.4	136.1	130.1	111.8	107.0
72.5°	114.3	107.0	98.5	88.7	85.1
75°	86.3	80.2	75.4	71.7	79.0
77.5°	59.6	57.1	53.5	49.8	48.6
80°	38.9	37.7	36.5	35.2	34.0
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)