

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: P561106

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-82-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561106
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-82-85-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

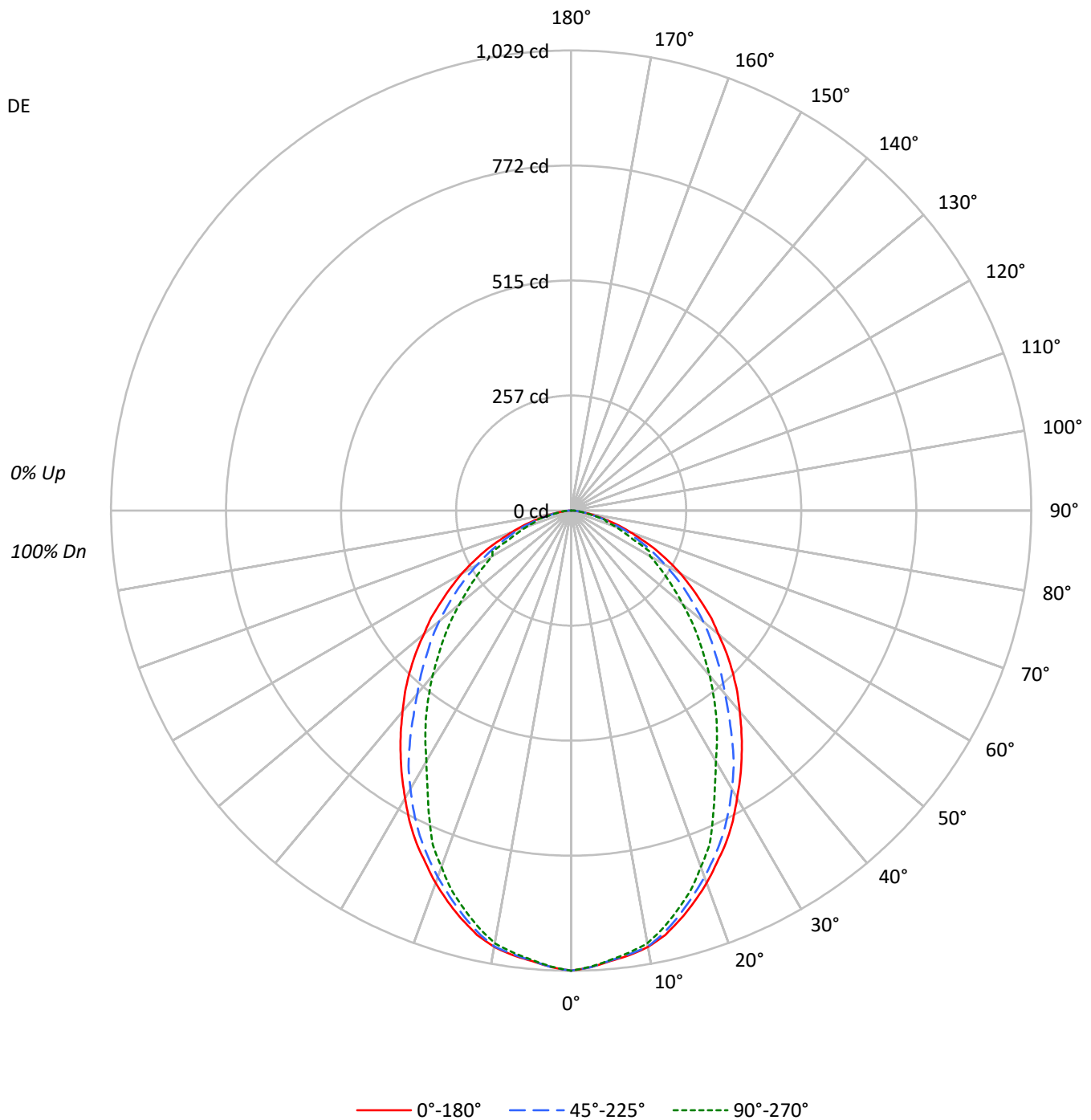
Lumens per Lamp: N/A
Luminaire Lumens: 2020.0 lumens
Efficiency: N/A
Efficacy: 86.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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	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°	2769	2769	2769
5°	2731	2728	2725
10°	2708	2704	2685
15°	2635	2608	2572
20°	2538	2497	2429
25°	2434	2381	2232
30°	2307	2233	2011
35°	2185	2063	1860
40°	2060	1880	1692
45°	1942	1738	1530
50°	1798	1613	1364
55°	1663	1462	1222
60°	1524	1306	1095
65°	1341	1144	970
70°	1105	1002	824
75°	879	767	804
80°	590	553	516
85°	367	442	516

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1942 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.8	4.7
10°-20°	262.9	13.0
20°-30°	363.9	18.0
30°-40°	388.0	19.2
40°-50°	354.0	17.5
50°-60°	277.3	13.7
60°-70°	180.8	8.9
70°-80°	80.1	4.0
80°-90°	17.2	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°	722.6	35.8
0°-40°	1110.6	55.0
0°-60°	1742.0	86.2
0°-90°	2020.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2020.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1029	1029	1029	1029	1029	
5°	1011	1010	1010	1009	1009	96
15°	946	946	936	927	923	266
25°	820	815	802	773	752	376
35°	665	660	628	580	566	416
45°	510	500	457	419	402	393
55°	354	344	312	275	260	318
65°	211	199	180	183	152	208
75°	84	78	74	70	77	91
85°	12	13	14	16	17	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1029.0	1029.0	1029.0	1029.0	1029.0
2.5°	1021.8	1021.8	1021.8	1020.6	1020.6
5°	1011.1	1009.9	1009.9	1008.7	1008.7
7.5°	1002.8	1001.6	1000.4	999.2	996.8
10°	990.9	990.9	989.7	983.8	982.6
12.5°	971.9	970.7	965.9	957.6	955.2
15°	945.7	945.7	936.2	926.7	923.1
17.5°	917.1	916.0	904.1	894.5	889.8
20°	886.2	883.8	871.9	856.5	848.1
22.5°	851.7	851.7	837.4	817.2	808.9
25°	819.6	814.8	801.8	773.2	751.8
27.5°	782.7	775.6	761.3	720.9	695.9
30°	742.3	738.7	718.5	666.1	647.1
32.5°	704.2	698.3	676.9	622.1	606.7
35°	665.0	660.2	628.1	580.5	566.2
37.5°	625.7	619.8	579.3	541.2	523.4
40°	586.4	579.3	535.3	500.8	481.8
42.5°	549.6	540.1	497.2	460.4	438.9
45°	510.3	499.6	456.8	418.7	402.1
47.5°	471.1	461.5	422.3	383.0	364.0
50°	429.4	421.1	385.4	346.2	325.9
52.5°	394.9	381.8	347.3	308.1	291.4
55°	354.5	343.8	311.7	274.8	260.5
57.5°	317.6	306.9	277.2	242.7	230.8
60°	283.1	267.6	242.7	212.9	203.4
62.5°	245.0	233.2	211.7	186.8	198.7
65°	210.6	198.7	179.6	183.2	152.3
67.5°	172.5	166.5	149.9	133.2	128.5
70°	140.4	133.2	127.3	109.4	104.7
72.5°	111.8	104.7	96.4	86.8	83.3
75°	84.5	78.5	73.8	70.2	77.3
77.5°	58.3	55.9	52.3	48.8	47.6
80°	38.1	36.9	35.7	34.5	33.3
82.5°	22.6	22.6	22.6	22.6	22.6
85°	11.9	13.1	14.3	15.5	16.7
87.5°	7.1	7.1	8.3	9.5	10.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)