

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: P561092

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561092
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-81-86-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2040.0 lumens
Efficiency: N/A
Efficacy: 87.2 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

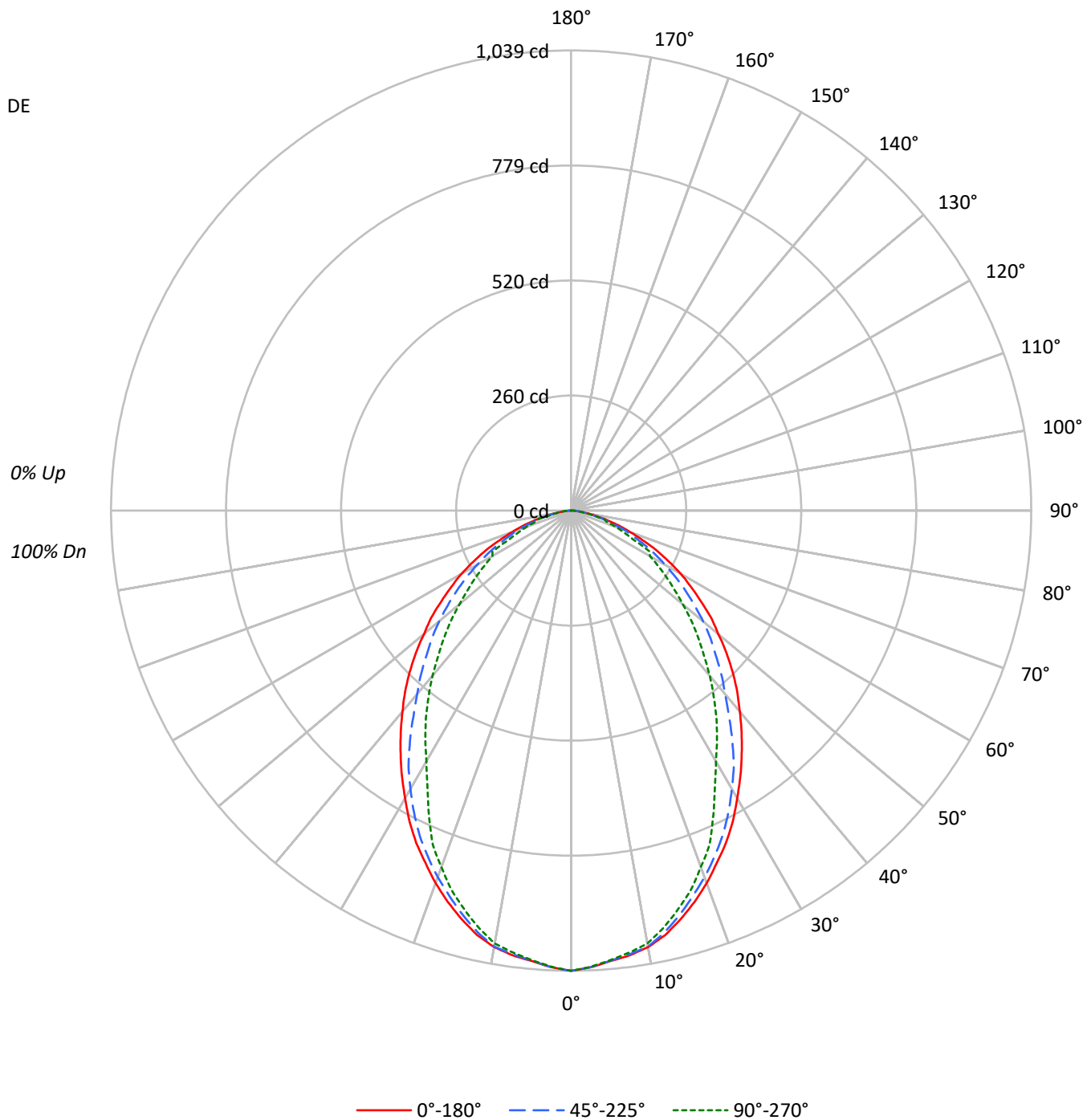
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2796	2796	2796
5°	2758	2755	2752
10°	2734	2731	2711
15°	2661	2634	2597
20°	2563	2522	2453
25°	2458	2404	2254
30°	2329	2255	2031
35°	2206	2084	1878
40°	2081	1899	1709
45°	1961	1756	1545
50°	1816	1629	1378
55°	1680	1476	1234
60°	1539	1319	1105
65°	1354	1155	979
70°	1116	1011	832
75°	887	775	812
80°	595	558	521
85°	371	445	519

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1961 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.7	4.7
10°-20°	265.5	13.0
20°-30°	367.5	18.0
30°-40°	391.9	19.2
40°-50°	357.5	17.5
50°-60°	280.1	13.7
60°-70°	182.5	8.9
70°-80°	80.9	4.0
80°-90°	17.3	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°	729.7	35.8
0°-40°	1121.6	55.0
0°-60°	1759.2	86.2
0°-90°	2040.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2040.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1039	1039	1039	1039	1039	
5°	1021	1020	1020	1019	1019	97
15°	955	955	945	936	932	268
25°	828	823	810	781	759	380
35°	672	667	634	586	572	420
45°	515	505	461	423	406	397
55°	358	347	315	278	263	321
65°	213	201	181	185	154	210
75°	85	79	74	71	78	91
85°	12	13	14	16	17	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1039.1	1039.1	1039.1	1039.1	1039.1
2.5°	1031.9	1031.9	1031.9	1030.7	1030.7
5°	1021.1	1019.9	1019.9	1018.7	1018.7
7.5°	1012.7	1011.5	1010.3	1009.1	1006.7
10°	1000.7	1000.7	999.5	993.5	992.3
12.5°	981.5	980.3	975.5	967.1	964.7
15°	955.1	955.1	945.4	935.8	932.2
17.5°	926.2	925.0	913.0	903.4	898.6
20°	895.0	892.6	880.6	865.0	856.5
22.5°	860.2	860.2	845.7	825.3	816.9
25°	827.7	822.9	809.7	780.9	759.2
27.5°	790.5	783.3	768.8	728.0	702.8
30°	749.6	746.0	725.6	672.7	653.5
32.5°	711.2	705.2	683.6	628.3	612.7
35°	671.5	666.7	634.3	586.2	571.8
37.5°	631.9	625.9	585.0	546.6	528.6
40°	592.3	585.0	540.6	505.8	486.5
42.5°	555.0	545.4	502.2	464.9	443.3
45°	515.4	504.6	461.3	422.9	406.0
47.5°	475.7	466.1	426.5	386.8	367.6
50°	433.7	425.3	389.2	349.6	329.2
52.5°	398.8	385.6	350.8	311.1	294.3
55°	358.0	347.2	314.7	277.5	263.1
57.5°	320.8	309.9	279.9	245.1	233.1
60°	285.9	270.3	245.1	215.0	205.4
62.5°	247.5	235.5	213.8	188.6	200.6
65°	212.6	200.6	181.4	185.0	153.8
67.5°	174.2	168.2	151.4	134.5	129.7
70°	141.8	134.5	128.5	110.5	105.7
72.5°	112.9	105.7	97.3	87.7	84.1
75°	85.3	79.3	74.5	70.9	78.1
77.5°	58.9	56.5	52.9	49.3	48.1
80°	38.4	37.2	36.0	34.8	33.6
82.5°	22.8	22.8	22.8	22.8	22.8
85°	12.0	13.2	14.4	15.6	16.8
87.5°	7.2	7.2	8.4	9.6	10.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)