

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: P561058

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561058
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-40-UNV-93-85-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2067.0 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

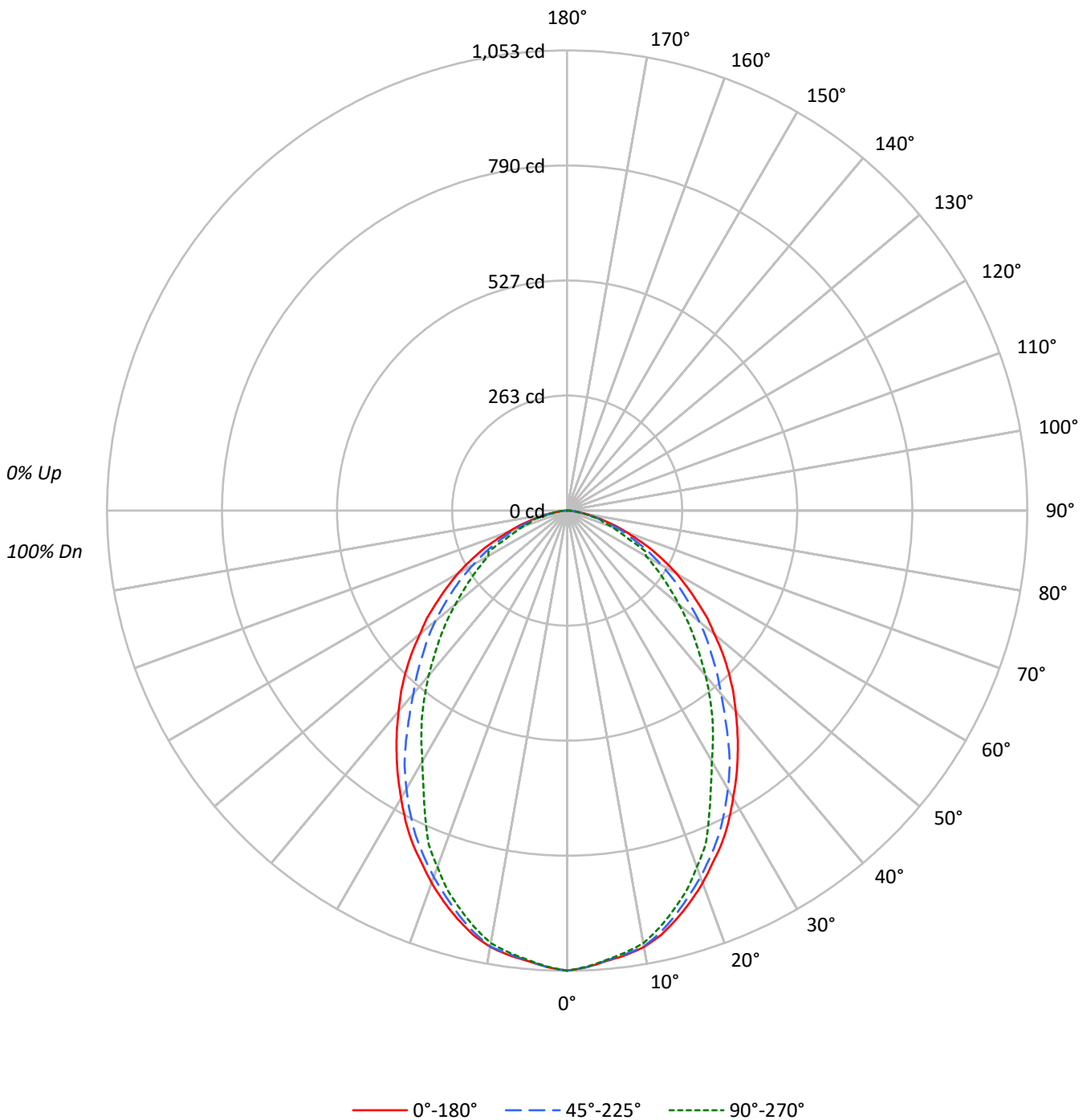
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2833	2833	2833
5°	2795	2791	2788
10°	2771	2767	2747
15°	2696	2669	2632
20°	2597	2555	2485
25°	2490	2436	2284
30°	2360	2284	2058
35°	2235	2111	1903
40°	2108	1924	1732
45°	1987	1779	1566
50°	1840	1651	1396
55°	1702	1496	1251
60°	1559	1336	1120
65°	1372	1170	992
70°	1130	1024	843
75°	898	785	822
80°	604	566	528
85°	377	451	525

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1987 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.0	4.7
10°-20°	269.0	13.0
20°-30°	372.4	18.0
30°-40°	397.1	19.2
40°-50°	362.2	17.5
50°-60°	283.8	13.7
60°-70°	185.0	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°	739.4	35.8
0°-40°	1136.5	55.0
0°-60°	1782.5	86.2
0°-90°	2067.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2067.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1053	1053	1053	1053	1053	
5°	1035	1033	1033	1032	1032	98
15°	968	968	958	948	945	272
25°	839	834	820	791	769	385
35°	680	676	643	594	579	425
45°	522	511	467	428	411	402
55°	363	352	319	281	267	325
65°	215	203	184	188	156	212
75°	86	80	76	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°	1052.9	1052.9	1052.9	1052.9	1052.9
2.5°	1045.6	1045.6	1045.6	1044.4	1044.4
5°	1034.6	1033.4	1033.4	1032.2	1032.2
7.5°	1026.1	1024.9	1023.7	1022.5	1020.0
10°	1014.0	1014.0	1012.7	1006.6	1005.4
12.5°	994.5	993.3	988.4	979.9	977.4
15°	967.7	967.7	958.0	948.2	944.6
17.5°	938.5	937.3	925.1	915.4	910.5
20°	906.8	904.4	892.2	876.4	867.9
22.5°	871.5	871.5	856.9	836.2	827.7
25°	838.7	833.8	820.4	791.2	769.3
27.5°	800.9	793.6	779.0	737.6	712.1
30°	759.6	755.9	735.2	681.6	662.2
32.5°	720.6	714.5	692.6	636.6	620.8
35°	680.4	675.6	642.7	594.0	579.4
37.5°	640.3	634.2	592.8	553.8	535.6
40°	600.1	592.8	547.8	512.5	493.0
42.5°	562.4	552.6	508.8	471.1	449.2
45°	522.2	511.2	467.4	428.5	411.4
47.5°	482.0	472.3	432.1	391.9	372.5
50°	439.4	430.9	394.4	354.2	333.5
52.5°	404.1	390.7	355.4	315.3	298.2
55°	362.7	351.8	318.9	281.2	266.6
57.5°	325.0	314.0	283.6	248.3	236.1
60°	289.7	273.9	248.3	217.9	208.1
62.5°	250.7	238.6	216.7	191.1	203.3
65°	215.4	203.3	183.8	187.5	155.8
67.5°	176.5	170.4	153.4	136.3	131.5
70°	143.6	136.3	130.2	112.0	107.1
72.5°	114.4	107.1	98.6	88.9	85.2
75°	86.4	80.3	75.5	71.8	79.1
77.5°	59.6	57.2	53.6	49.9	48.7
80°	39.0	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	11.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)