

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: P561381

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561381
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-LD4-2HI-35-UNV-93-86-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7912.0 lumens
Efficiency: N/A
Efficacy: 91.6 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

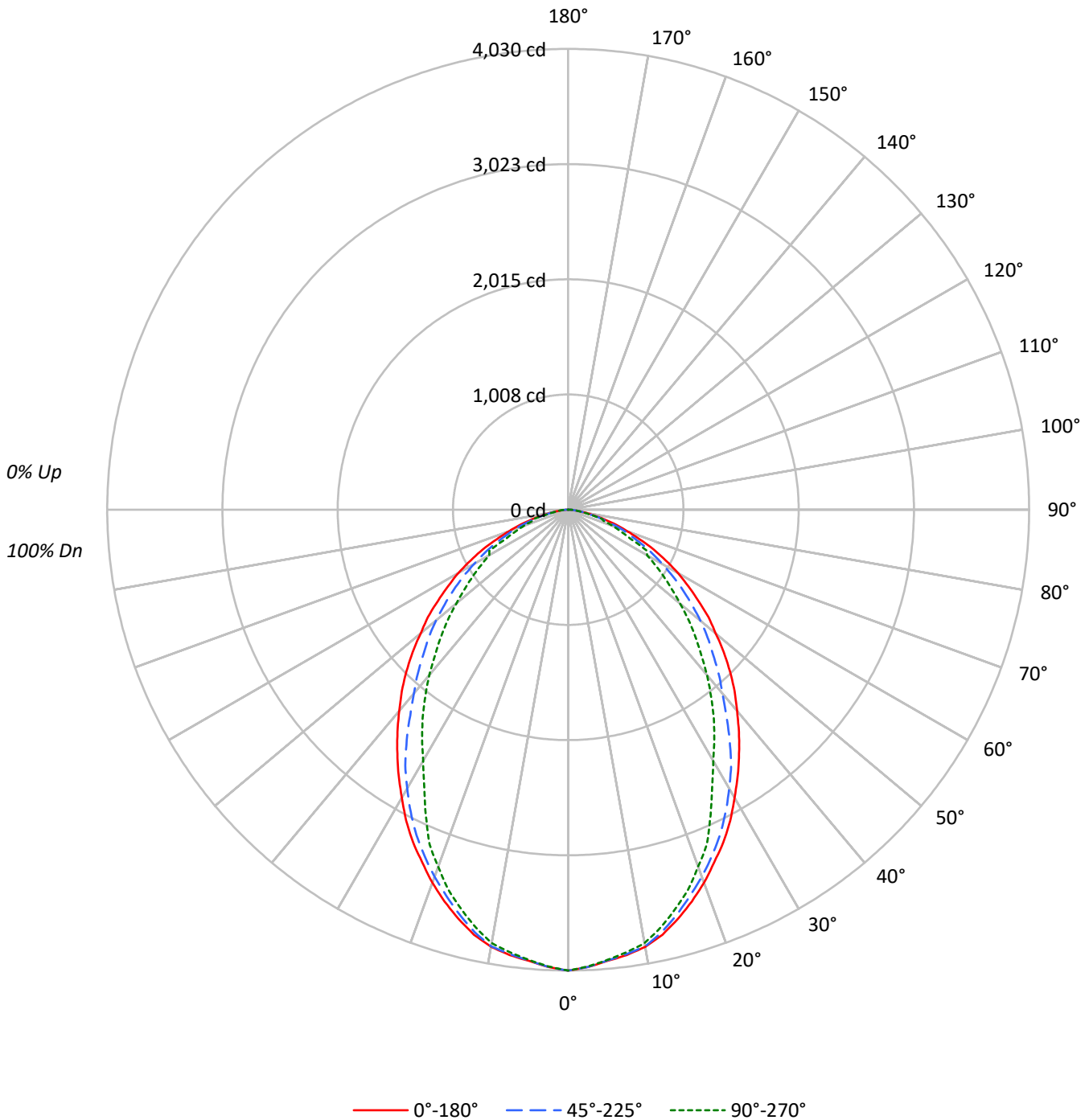
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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													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°	10845	10845	10845
5°	10698	10685	10673
10°	10605	10593	10516
15°	10319	10215	10073
20°	9940	9780	9513
25°	9532	9324	8743
30°	9034	8744	7876
35°	8556	8082	7286
40°	8069	7365	6629
45°	7607	6809	5993
50°	7042	6320	5344
55°	6514	5727	4787
60°	5968	5116	4288
65°	5251	4479	3798
70°	4326	3922	3226
75°	3439	3004	3149
80°	2311	2166	2022
85°	1439	1726	2013

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7607 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	375.2	4.7
10°-20°	1029.6	13.0
20°-30°	1425.4	18.0
30°-40°	1519.9	19.2
40°-50°	1386.6	17.5
50°-60°	1086.3	13.7
60°-70°	708.0	8.9
70°-80°	313.7	4.0
80°-90°	67.3	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°	2830.2	35.8
0°-40°	4350.1	55.0
0°-60°	6823.0	86.2
0°-90°	7912.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7912.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4030	4030	4030	4030	4030	
5°	3960	3956	3956	3951	3951	376
15°	3704	3704	3667	3630	3616	1041
25°	3210	3192	3140	3028	2945	1474
35°	2604	2586	2460	2274	2218	1628
45°	1999	1957	1789	1640	1575	1540
55°	1388	1346	1221	1076	1020	1245
65°	825	778	704	718	596	813
75°	331	308	289	275	303	355
85°	47	51	56	61	65	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4030.3	4030.3	4030.3	4030.3	4030.3
2.5°	4002.3	4002.3	4002.3	3997.7	3997.7
5°	3960.4	3955.7	3955.7	3951.1	3951.1
7.5°	3927.8	3923.1	3918.4	3913.8	3904.5
10°	3881.2	3881.2	3876.5	3853.2	3848.6
12.5°	3806.6	3802.0	3783.3	3750.7	3741.4
15°	3704.1	3704.1	3666.8	3629.6	3615.6
17.5°	3592.3	3587.6	3541.0	3503.8	3485.1
20°	3471.2	3461.8	3415.2	3354.7	3322.1
22.5°	3336.0	3336.0	3280.1	3200.9	3168.3
25°	3210.2	3191.6	3140.3	3028.5	2944.7
27.5°	3065.8	3037.8	2981.9	2823.5	2725.7
30°	2907.4	2893.4	2814.2	2609.2	2534.6
32.5°	2758.3	2735.0	2651.1	2436.8	2376.2
35°	2604.5	2585.9	2460.1	2273.7	2217.8
37.5°	2450.8	2427.5	2269.1	2120.0	2050.1
40°	2297.0	2269.1	2096.7	1961.6	1887.0
42.5°	2152.6	2115.3	1947.6	1803.1	1719.3
45°	1998.8	1956.9	1789.2	1640.1	1574.8
47.5°	1845.1	1807.8	1654.0	1500.3	1425.7
50°	1682.0	1649.4	1509.6	1355.8	1276.6
52.5°	1546.9	1495.6	1360.5	1206.8	1141.5
55°	1388.5	1346.5	1220.7	1076.3	1020.4
57.5°	1244.0	1202.1	1085.6	950.5	903.9
60°	1108.9	1048.3	950.5	834.0	796.7
62.5°	959.8	913.2	829.3	731.5	778.1
65°	824.7	778.1	703.5	717.5	596.4
67.5°	675.6	652.3	587.1	521.8	503.2
70°	549.8	521.8	498.5	428.7	410.0
72.5°	438.0	410.0	377.4	340.1	326.1
75°	330.8	307.5	288.9	274.9	302.9
77.5°	228.3	219.0	205.0	191.0	186.4
80°	149.1	144.4	139.8	135.1	130.5
82.5°	88.5	88.5	88.5	88.5	88.5
85°	46.6	51.3	55.9	60.6	65.2
87.5°	28.0	28.0	32.6	37.3	41.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)