

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: P561371

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-82-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561371
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-82-94-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7595.0 lumens
Efficiency: N/A
Efficacy: 87.9 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

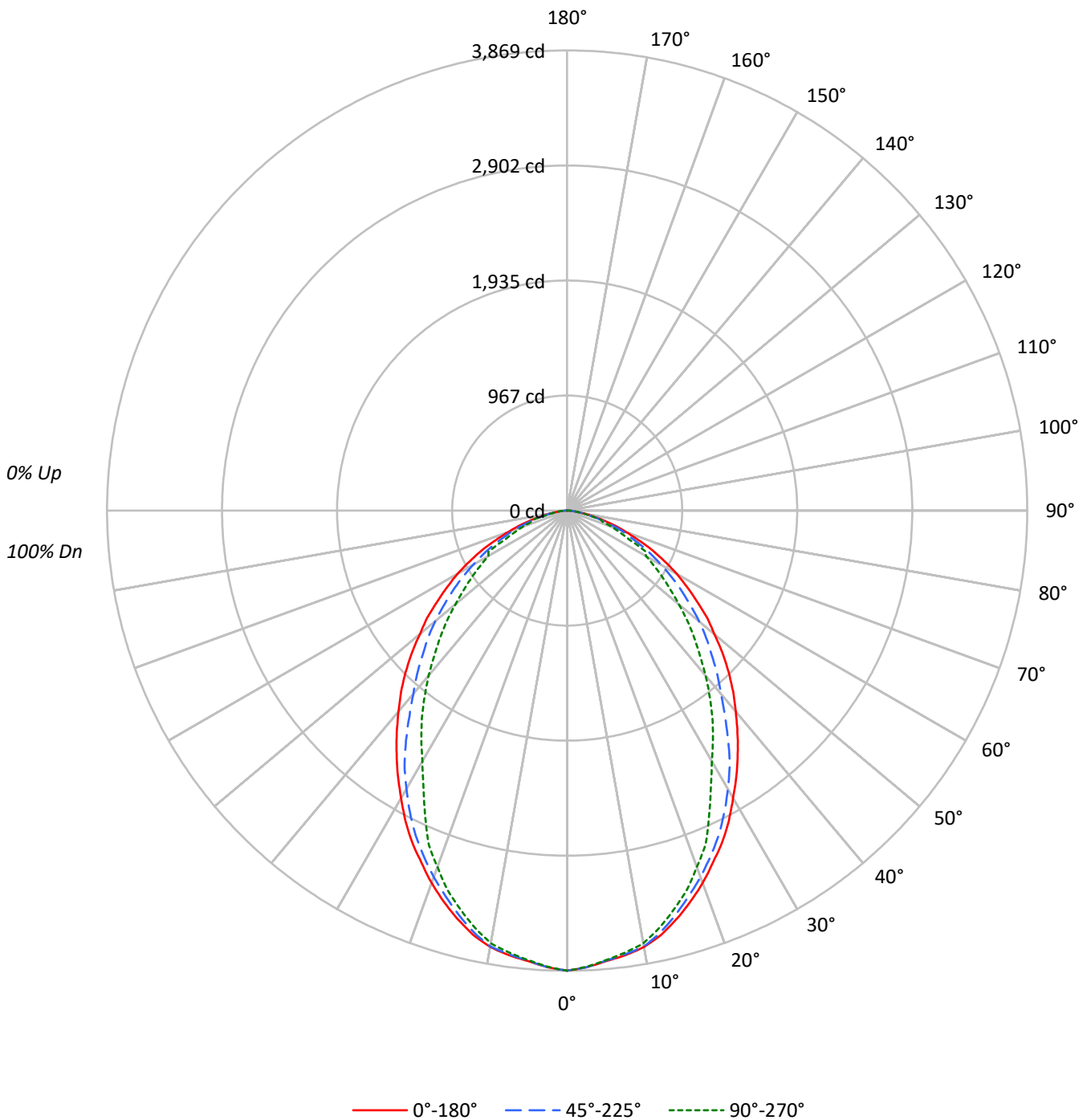
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10411	10411	10411
5°	10269	10257	10245
10°	10180	10168	10095
15°	9906	9806	9669
20°	9542	9388	9132
25°	9150	8951	8393
30°	8672	8394	7560
35°	8213	7758	6994
40°	7746	7070	6363
45°	7302	6536	5753
50°	6759	6067	5130
55°	6253	5498	4595
60°	5729	4910	4116
65°	5040	4301	3645
70°	4153	3766	3097
75°	3302	2883	3022
80°	2218	2080	1940
85°	1380	1658	1933

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7302 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	360.1	4.7
10°-20°	988.4	13.0
20°-30°	1368.3	18.0
30°-40°	1459.0	19.2
40°-50°	1331.1	17.5
50°-60°	1042.8	13.7
60°-70°	679.6	8.9
70°-80°	301.1	4.0
80°-90°	64.7	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°	2716.8	35.8
0°-40°	4175.8	55.0
0°-60°	6549.6	86.2
0°-90°	7595.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7595.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3869	3869	3869	3869	3869	
5°	3802	3797	3797	3793	3793	361
15°	3556	3556	3520	3484	3471	1000
25°	3082	3064	3014	2907	2827	1415
35°	2500	2482	2362	2183	2129	1563
45°	1919	1878	1718	1574	1512	1478
55°	1333	1293	1172	1033	980	1195
65°	792	747	675	689	572	780
75°	318	295	277	264	291	340
85°	45	49	54	58	63	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3868.8	3868.8	3868.8	3868.8	3868.8
2.5°	3842.0	3842.0	3842.0	3837.5	3837.5
5°	3801.7	3797.2	3797.2	3792.8	3792.8
7.5°	3770.4	3765.9	3761.4	3757.0	3748.0
10°	3725.7	3725.7	3721.2	3698.8	3694.4
12.5°	3654.1	3649.6	3631.7	3600.4	3591.5
15°	3555.7	3555.7	3519.9	3484.1	3470.7
17.5°	3448.4	3443.9	3399.2	3363.4	3345.5
20°	3332.1	3323.1	3278.4	3220.3	3189.0
22.5°	3202.4	3202.4	3148.7	3072.7	3041.4
25°	3081.6	3063.7	3014.5	2907.2	2826.7
27.5°	2943.0	2916.1	2862.5	2710.4	2616.5
30°	2790.9	2777.5	2701.4	2504.7	2433.1
32.5°	2647.8	2625.4	2544.9	2339.2	2281.0
35°	2500.2	2482.3	2361.5	2182.6	2129.0
37.5°	2352.6	2330.2	2178.2	2035.0	1967.9
40°	2205.0	2178.2	2012.7	1883.0	1811.4
42.5°	2066.3	2030.6	1869.5	1730.9	1650.4
45°	1918.7	1878.5	1717.5	1574.4	1511.7
47.5°	1771.1	1735.4	1587.8	1440.2	1368.6
50°	1614.6	1583.3	1449.1	1301.5	1225.5
52.5°	1484.9	1435.7	1306.0	1158.4	1095.8
55°	1332.8	1292.6	1171.8	1033.2	979.5
57.5°	1194.2	1153.9	1042.1	912.4	867.7
60°	1064.5	1006.3	912.4	800.6	764.8
62.5°	921.4	876.6	796.1	702.2	746.9
65°	791.6	746.9	675.4	688.8	572.5
67.5°	648.5	626.2	563.5	500.9	483.0
70°	527.8	500.9	478.6	411.5	393.6
72.5°	420.4	393.6	362.3	326.5	313.1
75°	317.6	295.2	277.3	263.9	290.7
77.5°	219.2	210.2	196.8	183.4	178.9
80°	143.1	138.7	134.2	129.7	125.2
82.5°	85.0	85.0	85.0	85.0	85.0
85°	44.7	49.2	53.7	58.1	62.6
87.5°	26.8	26.8	31.3	35.8	40.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)