

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: P561002

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561002
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-35-UNV-93-94-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2084.0 lumens
Efficiency: N/A
Efficacy: 89.1 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

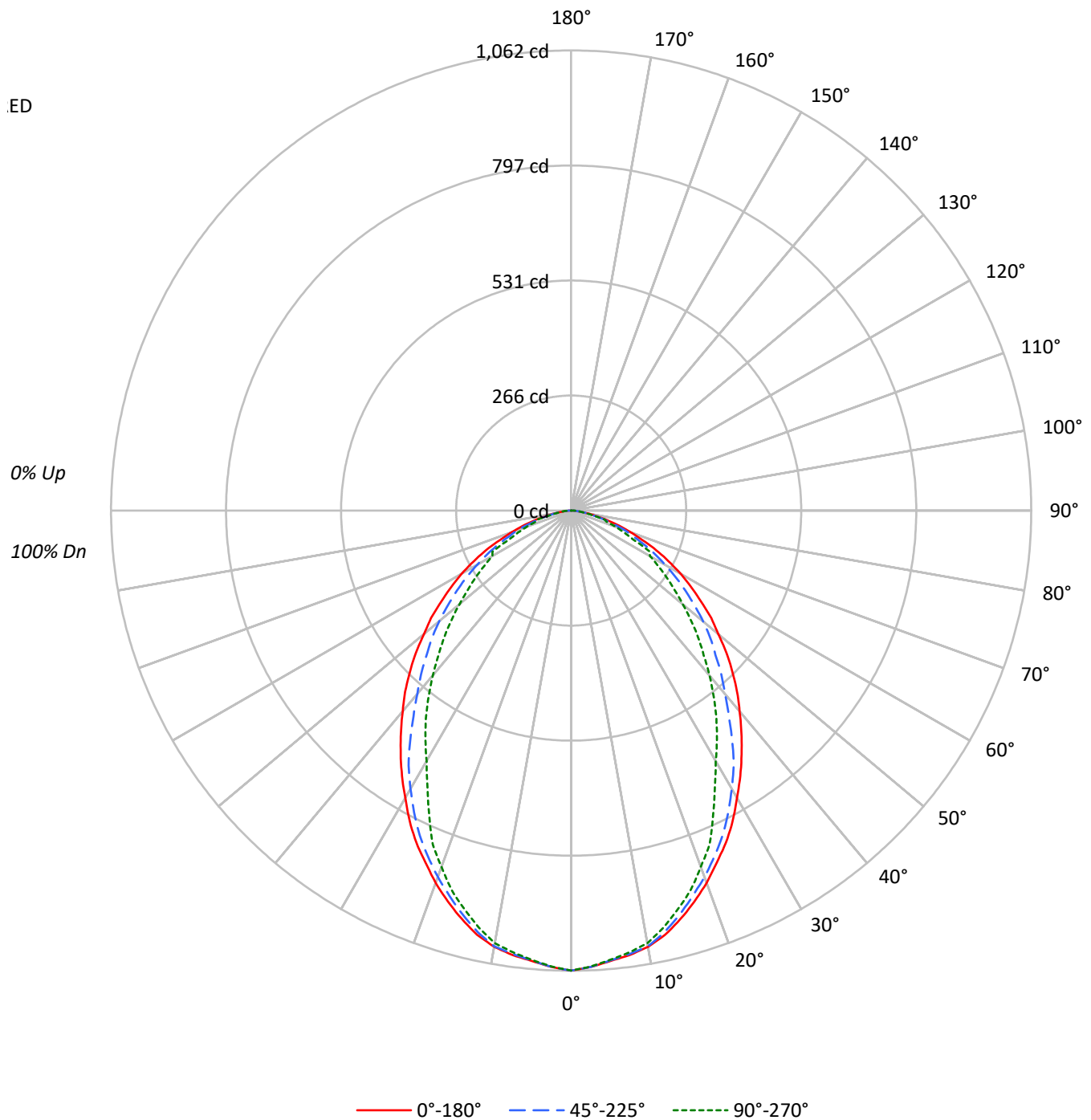
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2857	2857	2857
5°	2818	2814	2811
10°	2793	2790	2770
15°	2718	2691	2653
20°	2618	2576	2506
25°	2511	2456	2303
30°	2380	2303	2074
35°	2254	2129	1919
40°	2125	1940	1746
45°	2004	1794	1579
50°	1855	1665	1408
55°	1716	1508	1261
60°	1572	1348	1130
65°	1383	1180	1000
70°	1139	1033	850
75°	906	791	830
80°	609	570	533
85°	380	454	531

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2004 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.8	4.7
10°-20°	271.2	13.0
20°-30°	375.5	18.0
30°-40°	400.3	19.2
40°-50°	365.2	17.5
50°-60°	286.1	13.7
60°-70°	186.5	8.9
70°-80°	82.6	4.0
80°-90°	17.7	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°	745.5	35.8
0°-40°	1145.8	55.0
0°-60°	1797.2	86.2
0°-90°	2084.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2084.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1062	1062	1062	1062	1062	
5°	1043	1042	1042	1041	1041	99
15°	976	976	966	956	952	274
25°	846	841	827	798	776	388
35°	686	681	648	599	584	429
45°	526	515	471	432	415	406
55°	366	355	322	284	269	328
65°	217	205	185	189	157	214
75°	87	81	76	72	80	93
85°	12	14	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°	1061.6	1061.6	1061.6	1061.6	1061.6
2.5°	1054.2	1054.2	1054.2	1053.0	1053.0
5°	1043.2	1041.9	1041.9	1040.7	1040.7
7.5°	1034.6	1033.3	1032.1	1030.9	1028.4
10°	1022.3	1022.3	1021.1	1014.9	1013.7
12.5°	1002.7	1001.4	996.5	987.9	985.5
15°	975.7	975.7	965.8	956.0	952.3
17.5°	946.2	945.0	932.7	922.9	918.0
20°	914.3	911.8	899.6	883.6	875.0
22.5°	878.7	878.7	864.0	843.1	834.5
25°	845.6	840.7	827.2	797.7	775.6
27.5°	807.5	800.2	785.4	743.7	717.9
30°	765.8	762.1	741.3	687.3	667.6
32.5°	726.5	720.4	698.3	641.8	625.9
35°	686.0	681.1	648.0	598.9	584.2
37.5°	645.5	639.4	597.7	558.4	540.0
40°	605.0	597.7	552.3	516.7	497.0
42.5°	567.0	557.2	513.0	474.9	452.9
45°	526.5	515.4	471.3	432.0	414.8
47.5°	486.0	476.2	435.7	395.2	375.5
50°	443.0	434.4	397.6	357.1	336.3
52.5°	407.4	393.9	358.4	317.9	300.7
55°	365.7	354.7	321.5	283.5	268.8
57.5°	327.7	316.6	285.9	250.4	238.1
60°	292.1	276.1	250.4	219.7	209.9
62.5°	252.8	240.5	218.4	192.7	204.9
65°	217.2	204.9	185.3	189.0	157.1
67.5°	177.9	171.8	154.6	137.5	132.5
70°	144.8	137.5	131.3	112.9	108.0
72.5°	115.4	108.0	99.4	89.6	85.9
75°	87.1	81.0	76.1	72.4	79.8
77.5°	60.1	57.7	54.0	50.3	49.1
80°	39.3	38.0	36.8	35.6	34.4
82.5°	23.3	23.3	23.3	23.3	23.3
85°	12.3	13.5	14.7	16.0	17.2
87.5°	7.4	7.4	8.6	9.8	11.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)