

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: P561452

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561452
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-40-UNV-93-96-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6868.0 lumens
Efficiency: N/A
Efficacy: 79.5 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

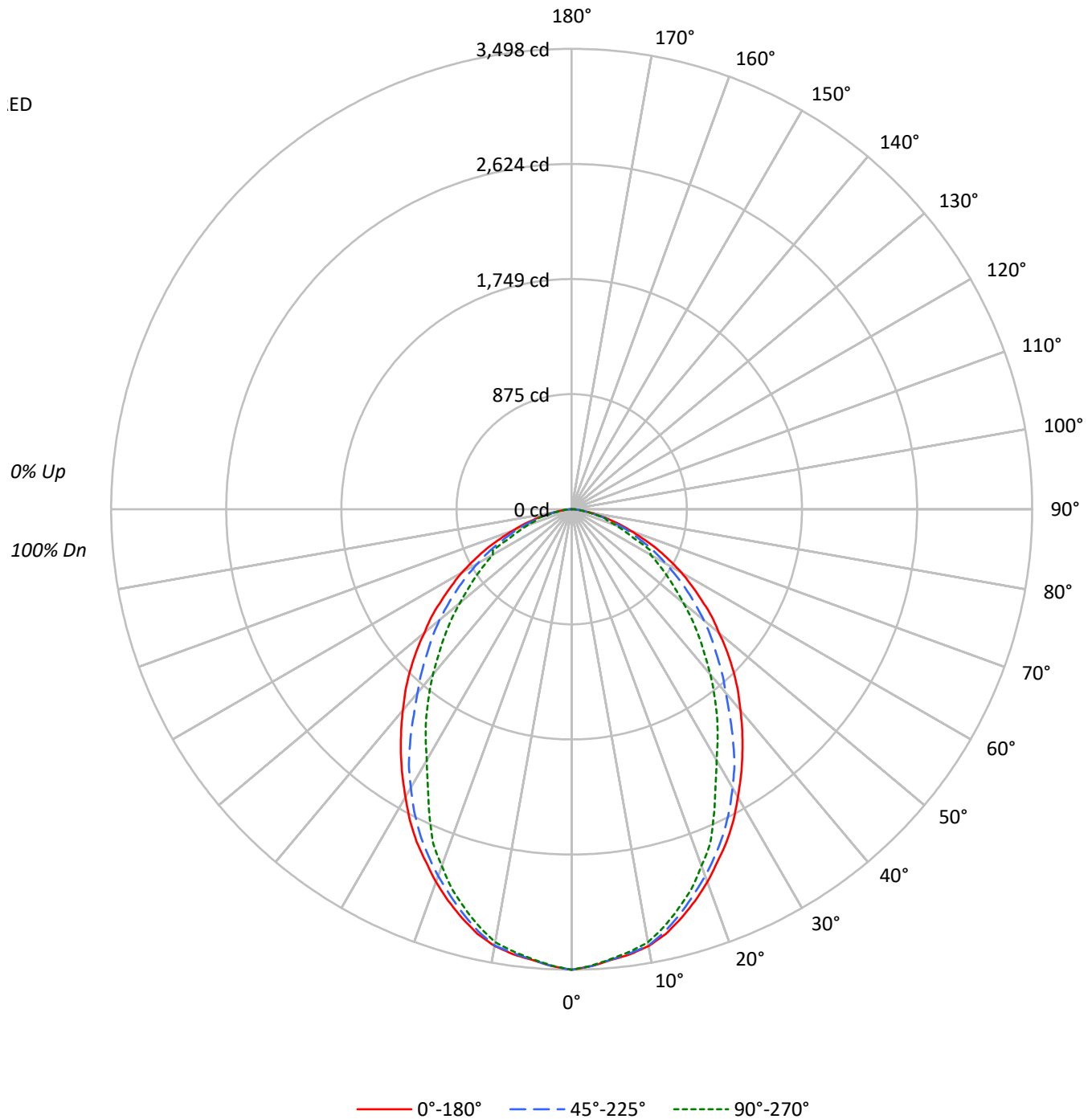
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9414	9414	9414
5°	9286	9276	9265
10°	9206	9195	9128
15°	8958	8868	8744
20°	8629	8490	8258
25°	8274	8094	7589
30°	7842	7591	6837
35°	7427	7015	6324
40°	7004	6393	5754
45°	6603	5911	5202
50°	6113	5486	4639
55°	5655	4972	4155
60°	5181	4441	3722
65°	4558	3889	3296
70°	3755	3405	2800
75°	2986	2608	2733
80°	2005	1880	1754
85°	1247	1497	1748

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6603 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	325.7	4.7
10°-20°	893.7	13.0
20°-30°	1237.3	18.0
30°-40°	1319.4	19.2
40°-50°	1203.6	17.5
50°-60°	943.0	13.7
60°-70°	614.6	8.9
70°-80°	272.3	4.0
80°-90°	58.4	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°	2456.7	35.8
0°-40°	3776.1	55.0
0°-60°	5922.7	86.2
0°-90°	6868.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6868.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3498	3498	3498	3498	3498	
5°	3438	3434	3434	3430	3430	326
15°	3215	3215	3183	3151	3138	904
25°	2787	2770	2726	2629	2556	1279
35°	2261	2245	2136	1974	1925	1413
45°	1735	1699	1553	1424	1367	1337
55°	1205	1169	1060	934	886	1081
65°	716	675	611	623	518	705
75°	287	267	251	239	263	308
85°	40	44	48	53	57	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3498.5	3498.5	3498.5	3498.5	3498.5
2.5°	3474.2	3474.2	3474.2	3470.2	3470.2
5°	3437.8	3433.8	3433.8	3429.7	3429.7
7.5°	3409.5	3405.4	3401.4	3397.4	3389.3
10°	3369.0	3369.0	3365.0	3344.8	3340.7
12.5°	3304.3	3300.3	3284.1	3255.8	3247.7
15°	3215.4	3215.4	3183.0	3150.6	3138.5
17.5°	3118.3	3114.2	3073.8	3041.4	3025.3
20°	3013.1	3005.0	2964.6	2912.0	2883.7
22.5°	2895.8	2895.8	2847.3	2778.6	2750.2
25°	2786.6	2770.5	2726.0	2628.9	2556.1
27.5°	2661.3	2637.0	2588.5	2450.9	2366.0
30°	2523.7	2511.6	2442.9	2264.9	2200.2
32.5°	2394.3	2374.1	2301.3	2115.3	2062.7
35°	2260.9	2244.7	2135.5	1973.7	1925.2
37.5°	2127.4	2107.2	1969.7	1840.2	1779.6
40°	1993.9	1969.7	1820.0	1702.7	1638.0
42.5°	1868.5	1836.2	1690.6	1565.2	1492.4
45°	1735.1	1698.7	1553.1	1423.7	1367.0
47.5°	1601.6	1569.3	1435.8	1302.3	1237.6
50°	1460.1	1431.7	1310.4	1176.9	1108.2
52.5°	1342.8	1298.3	1181.0	1047.5	990.9
55°	1205.3	1168.9	1059.7	934.3	885.7
57.5°	1079.9	1043.5	942.4	825.1	784.6
60°	962.6	910.0	825.1	724.0	691.6
62.5°	833.2	792.7	719.9	635.0	675.4
65°	715.9	675.4	610.7	622.8	517.7
67.5°	586.4	566.2	509.6	453.0	436.8
70°	477.2	453.0	432.8	372.1	355.9
72.5°	380.2	355.9	327.6	295.2	283.1
75°	287.2	266.9	250.8	238.6	262.9
77.5°	198.2	190.1	178.0	165.8	161.8
80°	129.4	125.4	121.3	117.3	113.2
82.5°	76.8	76.8	76.8	76.8	76.8
85°	40.4	44.5	48.5	52.6	56.6
87.5°	24.3	24.3	28.3	32.4	36.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)