

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: P561512

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561512
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-50-UNV-93-88-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6160.0 lumens
Efficiency: N/A
Efficacy: 71.3 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

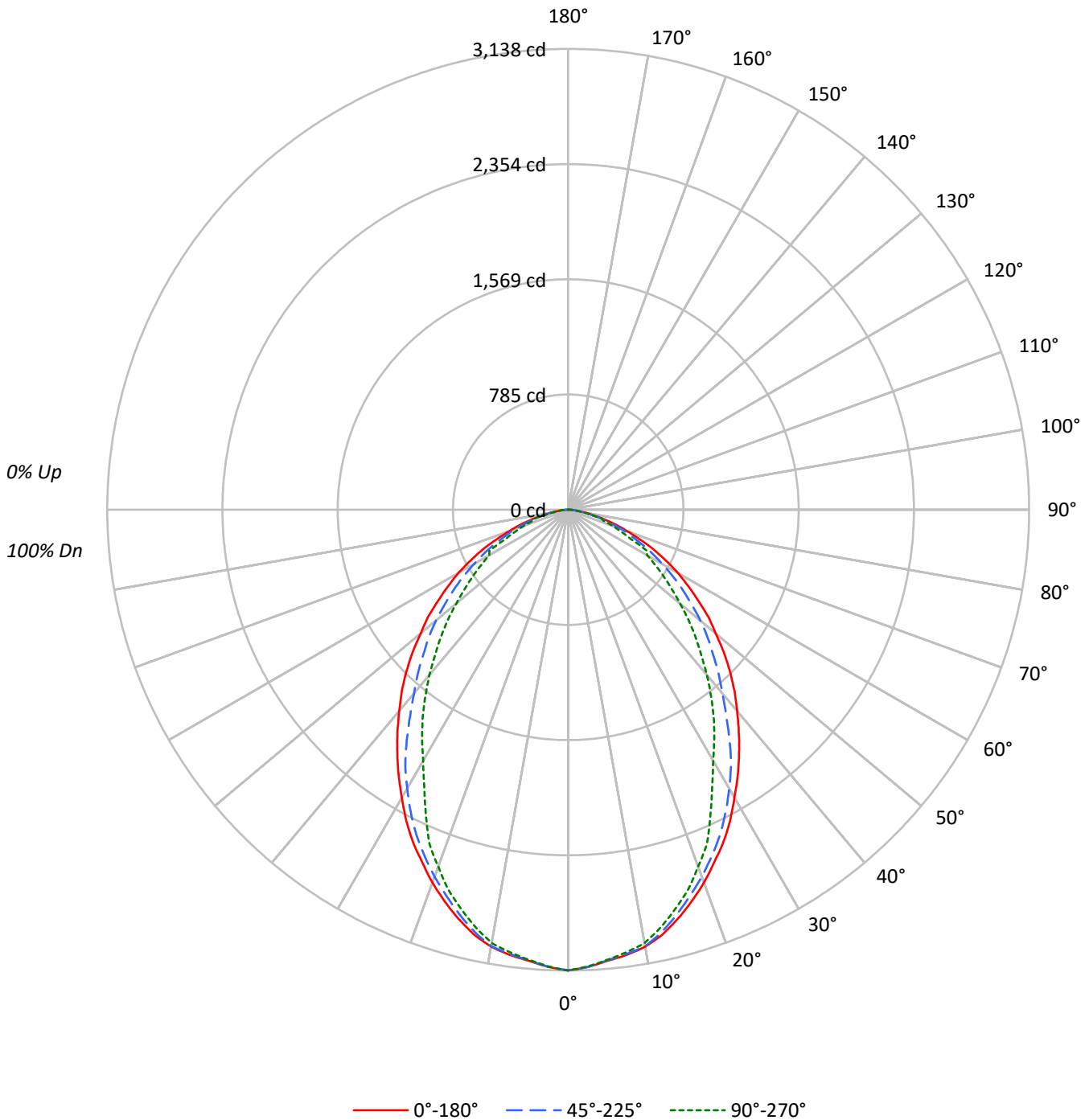
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8444	8444	8444
5°	8329	8319	8310
10°	8257	8247	8187
15°	8034	7953	7842
20°	7739	7615	7407
25°	7421	7260	6807
30°	7034	6808	6132
35°	6661	6292	5672
40°	6282	5734	5161
45°	5922	5301	4666
50°	5482	4920	4161
55°	5072	4459	3727
60°	4647	3983	3338
65°	4089	3488	2956
70°	3367	3054	2511
75°	2678	2338	2452
80°	1799	1686	1574
85°	1121	1343	1568

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5922 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	292.1	4.7
10°-20°	801.6	13.0
20°-30°	1109.8	18.0
30°-40°	1183.3	19.2
40°-50°	1079.6	17.5
50°-60°	845.7	13.7
60°-70°	551.2	8.9
70°-80°	244.2	4.0
80°-90°	52.4	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°	2203.5	35.8
0°-40°	3386.8	55.0
0°-60°	5312.1	86.2
0°-90°	6160.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6160.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3138	3138	3138	3138	3138	
5°	3083	3080	3080	3076	3076	293
15°	2884	2884	2855	2826	2815	811
25°	2499	2485	2445	2358	2293	1147
35°	2028	2013	1915	1770	1727	1268
45°	1556	1524	1393	1277	1226	1199
55°	1081	1048	950	838	794	970
65°	642	606	548	559	464	633
75°	258	239	225	214	236	276
85°	36	40	44	47	51	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3137.8	3137.8	3137.8	3137.8	3137.8
2.5°	3116.1	3116.1	3116.1	3112.4	3112.4
5°	3083.4	3079.8	3079.8	3076.2	3076.2
7.5°	3058.0	3054.4	3050.8	3047.1	3039.9
10°	3021.7	3021.7	3018.1	3000.0	2996.3
12.5°	2963.7	2960.1	2945.6	2920.2	2912.9
15°	2883.9	2883.9	2854.9	2825.9	2815.0
17.5°	2796.8	2793.2	2756.9	2727.9	2713.4
20°	2702.5	2695.3	2659.0	2611.8	2586.4
22.5°	2597.3	2597.3	2553.8	2492.1	2466.7
25°	2499.4	2484.9	2445.0	2357.9	2292.6
27.5°	2386.9	2365.2	2321.6	2198.3	2122.1
30°	2263.6	2252.7	2191.0	2031.4	1973.4
32.5°	2147.5	2129.4	2064.1	1897.2	1850.0
35°	2027.8	2013.3	1915.3	1770.2	1726.7
37.5°	1908.1	1889.9	1766.6	1650.5	1596.1
40°	1788.4	1766.6	1632.4	1527.2	1469.2
42.5°	1675.9	1646.9	1516.3	1403.9	1338.6
45°	1556.2	1523.6	1393.0	1276.9	1226.1
47.5°	1436.5	1407.5	1287.8	1168.1	1110.0
50°	1309.5	1284.1	1175.3	1055.6	993.9
52.5°	1204.3	1164.4	1059.2	939.5	888.7
55°	1081.0	1048.4	950.4	838.0	794.4
57.5°	968.6	935.9	845.2	740.0	703.7
60°	863.4	816.2	740.0	649.3	620.3
62.5°	747.3	711.0	645.7	569.5	605.8
65°	642.1	605.8	547.8	558.6	464.3
67.5°	526.0	507.9	457.1	406.3	391.8
70°	428.0	406.3	388.1	333.7	319.2
72.5°	341.0	319.2	293.8	264.8	253.9
75°	257.6	239.4	224.9	214.0	235.8
77.5°	177.7	170.5	159.6	148.7	145.1
80°	116.1	112.5	108.8	105.2	101.6
82.5°	68.9	68.9	68.9	68.9	68.9
85°	36.3	39.9	43.5	47.2	50.8
87.5°	21.8	21.8	25.4	29.0	32.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)