

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: P561356

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-81-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561356
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-81-96-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6420.0 lumens
Efficiency: N/A
Efficacy: 74.3 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

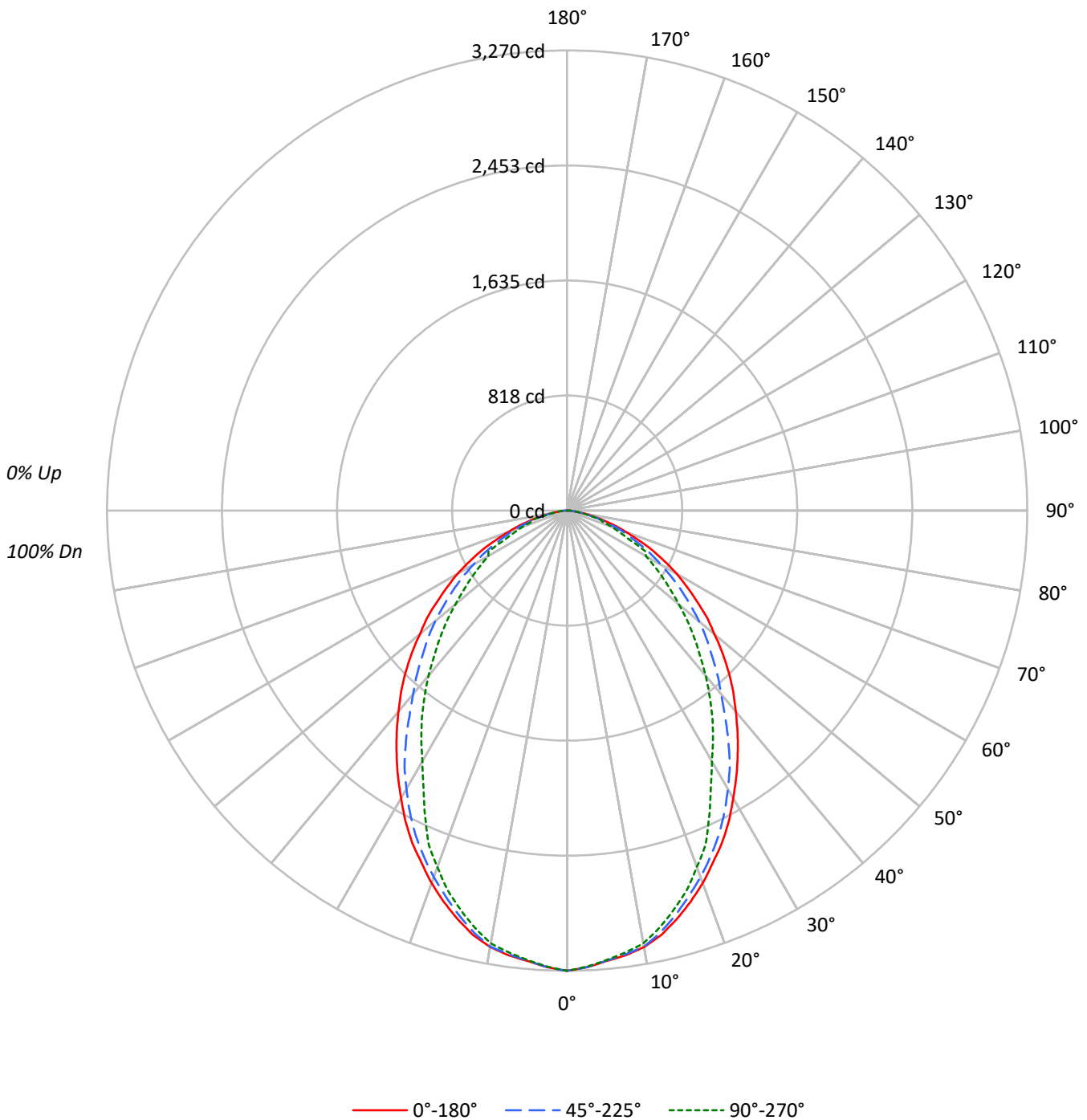
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8800	8800	8800
5°	8681	8670	8660
10°	8605	8595	8533
15°	8373	8289	8173
20°	8066	7936	7719
25°	7734	7566	7095
30°	7330	7095	6391
35°	6943	6558	5912
40°	6548	5976	5379
45°	6172	5525	4863
50°	5714	5128	4337
55°	5286	4647	3885
60°	4843	4151	3479
65°	4261	3635	3081
70°	3510	3183	2618
75°	2791	2437	2555
80°	1875	1757	1641
85°	1167	1402	1633

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6172 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	304.4	4.7
10°-20°	835.4	13.0
20°-30°	1156.6	18.0
30°-40°	1233.3	19.2
40°-50°	1125.1	17.5
50°-60°	881.4	13.7
60°-70°	574.5	8.9
70°-80°	254.5	4.0
80°-90°	54.6	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°	2296.5	35.8
0°-40°	3529.8	55.0
0°-60°	5536.4	86.2
0°-90°	6420.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6420.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3270	3270	3270	3270	3270	
5°	3214	3210	3210	3206	3206	305
15°	3006	3006	2975	2945	2934	845
25°	2605	2590	2548	2457	2389	1196
35°	2113	2098	1996	1845	1800	1321
45°	1622	1588	1452	1331	1278	1249
55°	1127	1093	990	873	828	1010
65°	669	631	571	582	484	659
75°	268	250	234	223	246	288
85°	38	42	45	49	53	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3270.3	3270.3	3270.3	3270.3	3270.3
2.5°	3247.6	3247.6	3247.6	3243.8	3243.8
5°	3213.6	3209.8	3209.8	3206.0	3206.0
7.5°	3187.1	3183.3	3179.5	3175.7	3168.2
10°	3149.3	3149.3	3145.5	3126.6	3122.8
12.5°	3088.8	3085.0	3069.9	3043.4	3035.9
15°	3005.6	3005.6	2975.4	2945.1	2933.8
17.5°	2914.9	2911.1	2873.3	2843.0	2827.9
20°	2816.6	2809.0	2771.2	2722.1	2695.6
22.5°	2706.9	2706.9	2661.6	2597.3	2570.8
25°	2604.9	2589.7	2548.2	2457.4	2389.4
27.5°	2487.7	2465.0	2419.6	2291.1	2211.7
30°	2359.1	2347.8	2283.5	2117.2	2056.7
32.5°	2238.1	2219.2	2151.2	1977.3	1928.1
35°	2113.4	2098.3	1996.2	1845.0	1799.6
37.5°	1988.6	1969.7	1841.2	1720.2	1663.5
40°	1863.9	1841.2	1701.3	1591.7	1531.2
42.5°	1746.7	1716.4	1580.3	1463.1	1395.1
45°	1621.9	1587.9	1451.8	1330.8	1277.9
47.5°	1497.1	1466.9	1342.1	1217.4	1156.9
50°	1364.8	1338.4	1224.9	1100.2	1035.9
52.5°	1255.2	1213.6	1103.9	979.2	926.3
55°	1126.6	1092.6	990.5	873.3	828.0
57.5°	1009.4	975.4	880.9	771.3	733.4
60°	899.8	850.6	771.3	676.7	646.5
62.5°	778.8	741.0	673.0	593.6	631.4
65°	669.2	631.4	570.9	582.2	483.9
67.5°	548.2	529.3	476.4	423.4	408.3
70°	446.1	423.4	404.5	347.8	332.7
72.5°	355.4	332.7	306.2	276.0	264.6
75°	268.4	249.5	234.4	223.1	245.7
77.5°	185.3	177.7	166.3	155.0	151.2
80°	121.0	117.2	113.4	109.6	105.9
82.5°	71.8	71.8	71.8	71.8	71.8
85°	37.8	41.6	45.4	49.1	52.9
87.5°	22.7	22.7	26.5	30.2	34.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)