

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: P563709

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-80-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563709
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-24-4-LD4-4HI-40-UNV-80-96-EDD
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19168.0 lumens
Efficiency: N/A
Efficacy: 110.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

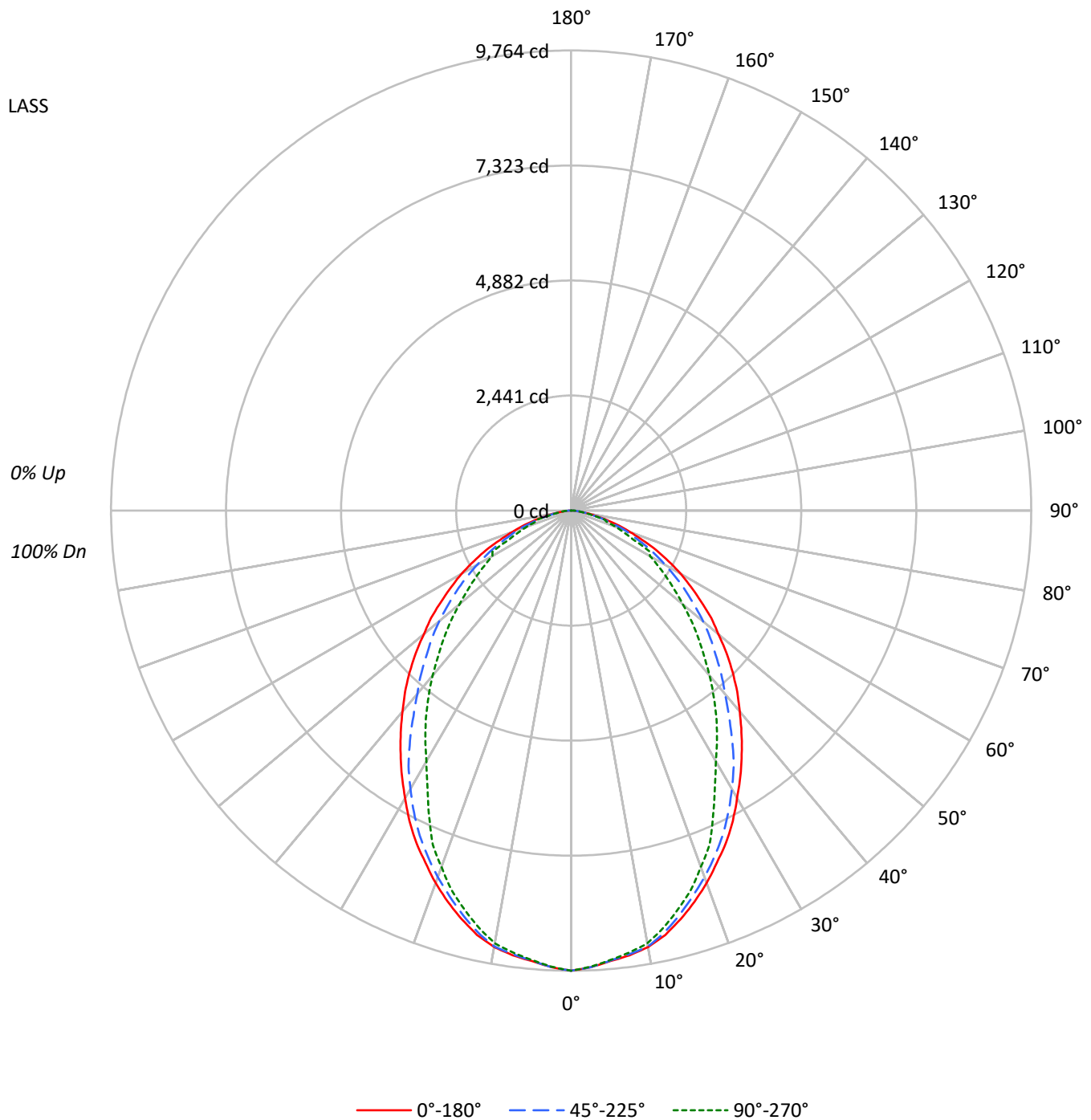
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	13137	13137	13137
5°	12959	12943	12928
10°	12846	12831	12738
15°	12500	12374	12201
20°	12041	11847	11524
25°	11546	11295	10591
30°	10943	10592	9540
35°	10364	9789	8825
40°	9774	8922	8029
45°	9214	8248	7260
50°	8530	7655	6474
55°	7891	6937	5799
60°	7229	6197	5194
65°	6361	5427	4600
70°	5240	4751	3908
75°	4166	3638	3814
80°	2799	2624	2449
85°	1743	2092	2439

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9214 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	908.9	4.7
10°-20°	2494.4	13.0
20°-30°	3453.3	18.0
30°-40°	3682.2	19.2
40°-50°	3359.3	17.5
50°-60°	2631.7	13.7
60°-70°	1715.2	8.9
70°-80°	759.9	4.0
80°-90°	163.2	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°	6856.6	35.8
0°-40°	10538.8	55.0
0°-60°	16529.7	86.2
0°-90°	19168.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	19168.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9764	9764	9764	9764	9764	
5°	9595	9583	9583	9572	9572	911
15°	8974	8974	8884	8793	8759	2523
25°	7777	7732	7608	7337	7134	3571
35°	6310	6265	5960	5508	5373	3945
45°	4842	4741	4334	3973	3815	3730
55°	3364	3262	2957	2608	2472	3017
65°	1998	1885	1704	1738	1445	1969
75°	801	745	700	666	734	859
85°	113	124	136	147	158	157
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9763.9	9763.9	9763.9	9763.9	9763.9
2.5°	9696.2	9696.2	9696.2	9684.9	9684.9
5°	9594.6	9583.3	9583.3	9572.0	9572.0
7.5°	9515.6	9504.3	9493.0	9481.7	9459.2
10°	9402.7	9402.7	9391.4	9335.0	9323.7
12.5°	9222.1	9210.8	9165.7	9086.7	9064.1
15°	8973.8	8973.8	8883.5	8793.2	8759.3
17.5°	8702.9	8691.6	8578.7	8488.4	8443.3
20°	8409.4	8386.8	8273.9	8127.2	8048.2
22.5°	8082.0	8082.0	7946.6	7754.7	7675.7
25°	7777.3	7732.1	7608.0	7337.1	7133.9
27.5°	7427.4	7359.6	7224.2	6840.4	6603.3
30°	7043.6	7009.7	6817.8	6321.2	6140.5
32.5°	6682.4	6625.9	6422.7	5903.5	5756.8
35°	6309.9	6264.7	5959.9	5508.4	5373.0
37.5°	5937.4	5880.9	5497.1	5135.9	4966.6
40°	5564.9	5497.1	5079.5	4752.2	4571.5
42.5°	5215.0	5124.6	4718.3	4368.4	4165.2
45°	4842.5	4740.9	4334.5	3973.3	3815.3
47.5°	4470.0	4379.7	4007.2	3634.7	3454.1
50°	4074.9	3995.9	3657.2	3284.7	3092.8
52.5°	3747.5	3623.4	3296.0	2923.5	2765.5
55°	3363.8	3262.2	2957.4	2607.5	2472.0
57.5°	3013.8	2912.2	2630.1	2302.7	2189.8
60°	2686.5	2539.7	2302.7	2020.5	1930.2
62.5°	2325.3	2212.4	2009.2	1772.2	1885.1
65°	1997.9	1885.1	1704.5	1738.3	1444.8
67.5°	1636.7	1580.3	1422.3	1264.2	1219.1
70°	1332.0	1264.2	1207.8	1038.5	993.3
72.5°	1061.1	993.3	914.3	824.0	790.1
75°	801.4	745.0	699.8	666.0	733.7
77.5°	553.1	530.5	496.7	462.8	451.5
80°	361.2	349.9	338.6	327.3	316.1
82.5°	214.5	214.5	214.5	214.5	214.5
85°	112.9	124.2	135.5	146.7	158.0
87.5°	67.7	67.7	79.0	90.3	101.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)