

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: P561461

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-80-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561461
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-80-86-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8110.0 lumens
Efficiency: N/A
Efficacy: 93.9 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

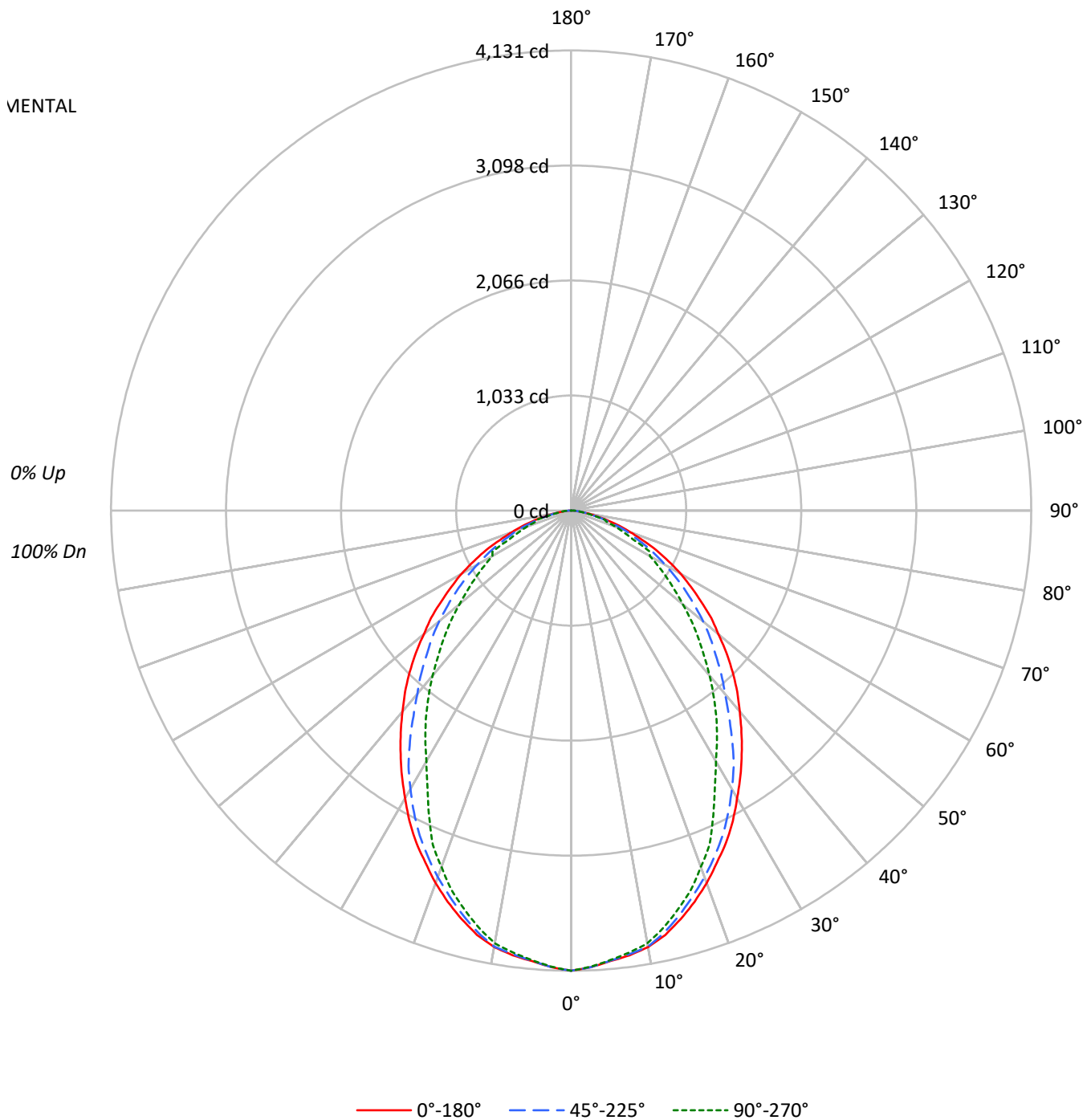
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	11117	11117	11117
5°	10966	10953	10940
10°	10871	10858	10779
15°	10578	10471	10325
20°	10189	10025	9751
25°	9770	9557	8962
30°	9260	8963	8073
35°	8770	8284	7468
40°	8271	7549	6795
45°	7797	6979	6143
50°	7218	6478	5478
55°	6677	5871	4907
60°	6118	5244	4395
65°	5382	4592	3892
70°	4434	4020	3307
75°	3526	3079	3227
80°	2368	2221	2072
85°	1476	1769	2066

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7797 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	384.6	4.7
10°-20°	1055.4	13.0
20°-30°	1461.1	18.0
30°-40°	1557.9	19.2
40°-50°	1421.3	17.5
50°-60°	1113.5	13.7
60°-70°	725.7	8.9
70°-80°	321.5	4.0
80°-90°	69.0	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°	2901.0	35.8
0°-40°	4459.0	55.0
0°-60°	6993.7	86.2
0°-90°	8110.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8110.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4131	4131	4131	4131	4131	
5°	4060	4055	4055	4050	4050	385
15°	3797	3797	3759	3720	3706	1067
25°	3291	3272	3219	3104	3018	1511
35°	2670	2651	2522	2331	2273	1669
45°	2049	2006	1834	1681	1614	1578
55°	1423	1380	1251	1103	1046	1277
65°	845	798	721	736	611	833
75°	339	315	296	282	310	363
85°	48	52	57	62	67	66
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4131.1	4131.1	4131.1	4131.1	4131.1
2.5°	4102.5	4102.5	4102.5	4097.7	4097.7
5°	4059.5	4054.7	4054.7	4049.9	4049.9
7.5°	4026.1	4021.3	4016.5	4011.7	4002.2
10°	3978.3	3978.3	3973.5	3949.6	3944.9
12.5°	3901.9	3897.1	3878.0	3844.6	3835.0
15°	3796.8	3796.8	3758.6	3720.4	3706.1
17.5°	3682.2	3677.4	3629.7	3591.5	3572.3
20°	3558.0	3548.5	3500.7	3438.6	3405.2
22.5°	3419.5	3419.5	3362.2	3281.0	3247.6
25°	3290.6	3271.5	3218.9	3104.3	3018.3
27.5°	3142.5	3113.9	3056.6	2894.2	2793.9
30°	2980.1	2965.8	2884.6	2674.5	2598.1
32.5°	2827.3	2803.4	2717.5	2497.8	2435.7
35°	2669.7	2650.6	2521.7	2330.6	2273.3
37.5°	2512.1	2488.2	2325.8	2173.0	2101.4
40°	2354.5	2325.8	2149.1	2010.6	1934.2
42.5°	2206.5	2168.2	1996.3	1848.3	1762.3
45°	2048.8	2005.9	1833.9	1681.1	1614.2
47.5°	1891.2	1853.0	1695.4	1537.8	1461.4
50°	1724.1	1690.7	1547.4	1389.8	1308.6
52.5°	1585.6	1533.1	1394.6	1236.9	1170.1
55°	1423.2	1380.2	1251.3	1103.2	1045.9
57.5°	1275.2	1232.2	1112.8	974.3	926.5
60°	1136.7	1074.6	974.3	854.9	816.7
62.5°	983.8	936.1	850.1	749.8	797.6
65°	845.3	797.6	721.2	735.5	611.3
67.5°	692.5	668.6	601.8	534.9	515.8
70°	563.6	534.9	511.0	439.4	420.3
72.5°	448.9	420.3	386.8	348.6	334.3
75°	339.1	315.2	296.1	281.8	310.4
77.5°	234.0	224.5	210.1	195.8	191.0
80°	152.8	148.1	143.3	138.5	133.7
82.5°	90.7	90.7	90.7	90.7	90.7
85°	47.8	52.5	57.3	62.1	66.9
87.5°	28.7	28.7	33.4	38.2	43.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)