

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: P561479

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-81-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561479
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-81-87-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7455.0 lumens
Efficiency: N/A
Efficacy: 86.3 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

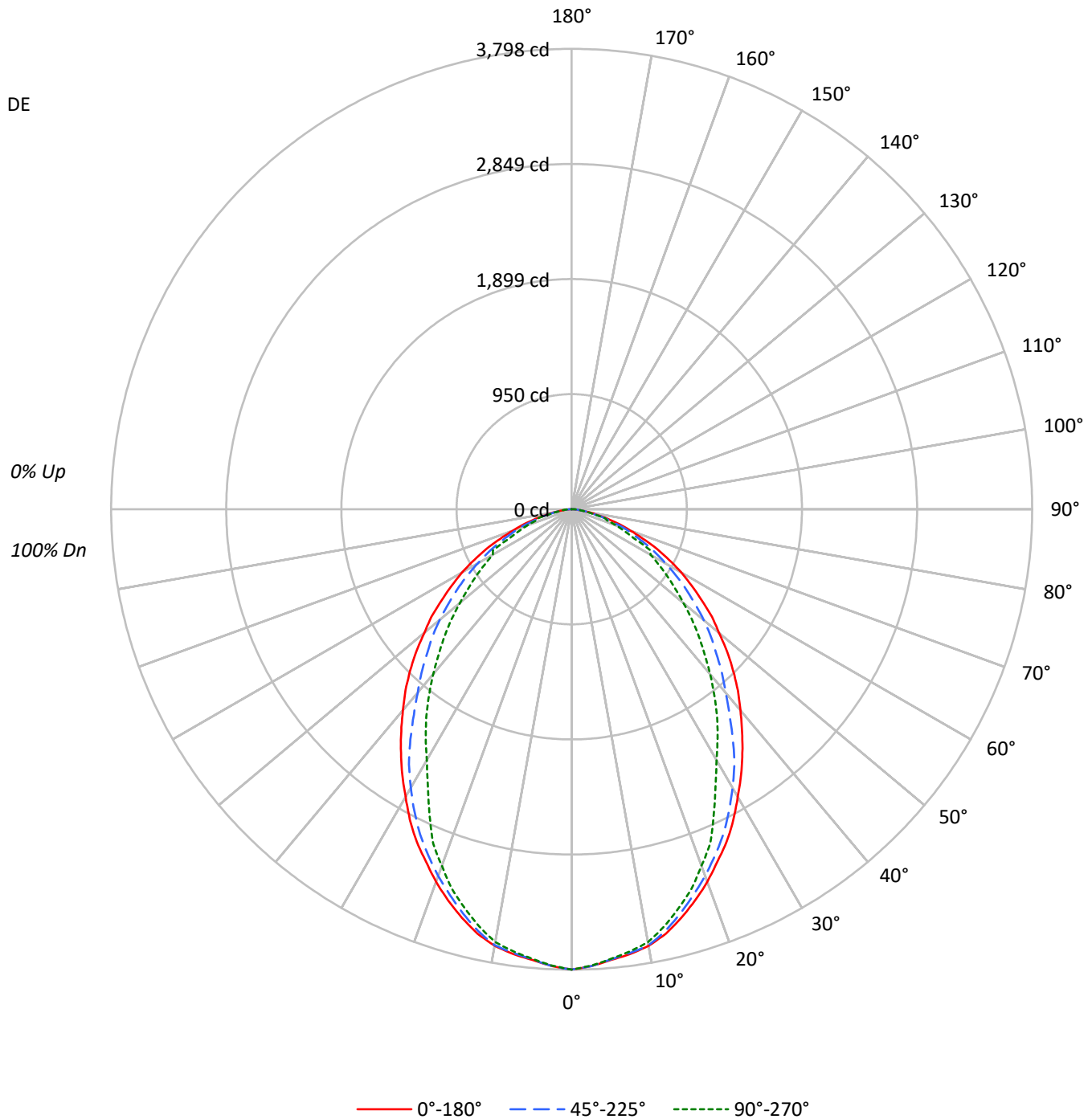
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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				
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°	10219	10219	10219
5°	10080	10068	10056
10°	9993	9981	9909
15°	9723	9625	9491
20°	9366	9215	8964
25°	8981	8786	8238
30°	8512	8239	7421
35°	8062	7615	6865
40°	7603	6940	6246
45°	7168	6416	5647
50°	6635	5955	5036
55°	6138	5396	4510
60°	5624	4820	4040
65°	4948	4221	3578
70°	4076	3696	3039
75°	3241	2830	2967
80°	2177	2041	1905
85°	1355	1627	1899

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7168 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	353.5	4.7
10°-20°	970.1	13.0
20°-30°	1343.1	18.0
30°-40°	1432.1	19.2
40°-50°	1306.5	17.5
50°-60°	1023.5	13.7
60°-70°	667.1	8.9
70°-80°	295.5	4.0
80°-90°	63.4	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°	2666.7	35.8
0°-40°	4098.8	55.0
0°-60°	6428.9	86.2
0°-90°	7455.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7455.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3798	3798	3798	3798	3798	
5°	3732	3727	3727	3723	3723	354
15°	3490	3490	3455	3420	3407	981
25°	3025	3007	2959	2854	2775	1389
35°	2454	2436	2318	2142	2090	1534
45°	1883	1844	1686	1545	1484	1451
55°	1308	1269	1150	1014	961	1173
65°	777	733	663	676	562	766
75°	312	290	272	259	285	334
85°	44	48	53	57	62	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3797.5	3797.5	3797.5	3797.5	3797.5
2.5°	3771.1	3771.1	3771.1	3766.7	3766.7
5°	3731.6	3727.2	3727.2	3722.8	3722.8
7.5°	3700.9	3696.5	3692.1	3687.7	3678.9
10°	3657.0	3657.0	3652.6	3630.7	3626.3
12.5°	3586.8	3582.4	3564.8	3534.1	3525.3
15°	3490.2	3490.2	3455.0	3419.9	3406.8
17.5°	3384.8	3380.4	3336.5	3301.4	3283.8
20°	3270.7	3261.9	3218.0	3160.9	3130.2
22.5°	3143.3	3143.3	3090.7	3016.0	2985.3
25°	3024.8	3007.3	2959.0	2853.6	2774.6
27.5°	2888.7	2862.4	2809.7	2660.4	2568.2
30°	2739.5	2726.3	2651.6	2458.5	2388.2
32.5°	2599.0	2577.0	2498.0	2296.0	2239.0
35°	2454.1	2436.5	2318.0	2142.4	2089.7
37.5°	2309.2	2287.3	2138.0	1997.5	1931.7
40°	2164.3	2138.0	1975.6	1848.3	1778.0
42.5°	2028.2	1993.1	1835.1	1699.0	1620.0
45°	1883.4	1843.9	1685.8	1545.3	1483.9
47.5°	1738.5	1703.4	1558.5	1413.6	1343.4
50°	1584.8	1554.1	1422.4	1277.5	1202.9
52.5°	1457.5	1409.2	1281.9	1137.0	1075.6
55°	1308.3	1268.8	1150.2	1014.1	961.4
57.5°	1172.2	1132.7	1022.9	895.6	851.7
60°	1044.9	987.8	895.6	785.8	750.7
62.5°	904.4	860.5	781.4	689.3	733.2
65°	777.1	733.2	662.9	676.1	561.9
67.5°	636.6	614.6	553.2	491.7	474.1
70°	518.0	491.7	469.7	403.9	386.3
72.5°	412.7	386.3	355.6	320.5	307.3
75°	311.7	289.7	272.2	259.0	285.4
77.5°	215.1	206.3	193.2	180.0	175.6
80°	140.5	136.1	131.7	127.3	122.9
82.5°	83.4	83.4	83.4	83.4	83.4
85°	43.9	48.3	52.7	57.1	61.5
87.5°	26.3	26.3	30.7	35.1	39.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)