

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: P561489

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-82-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561489
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-82-84-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7783.0 lumens
Efficiency: N/A
Efficacy: 90.1 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

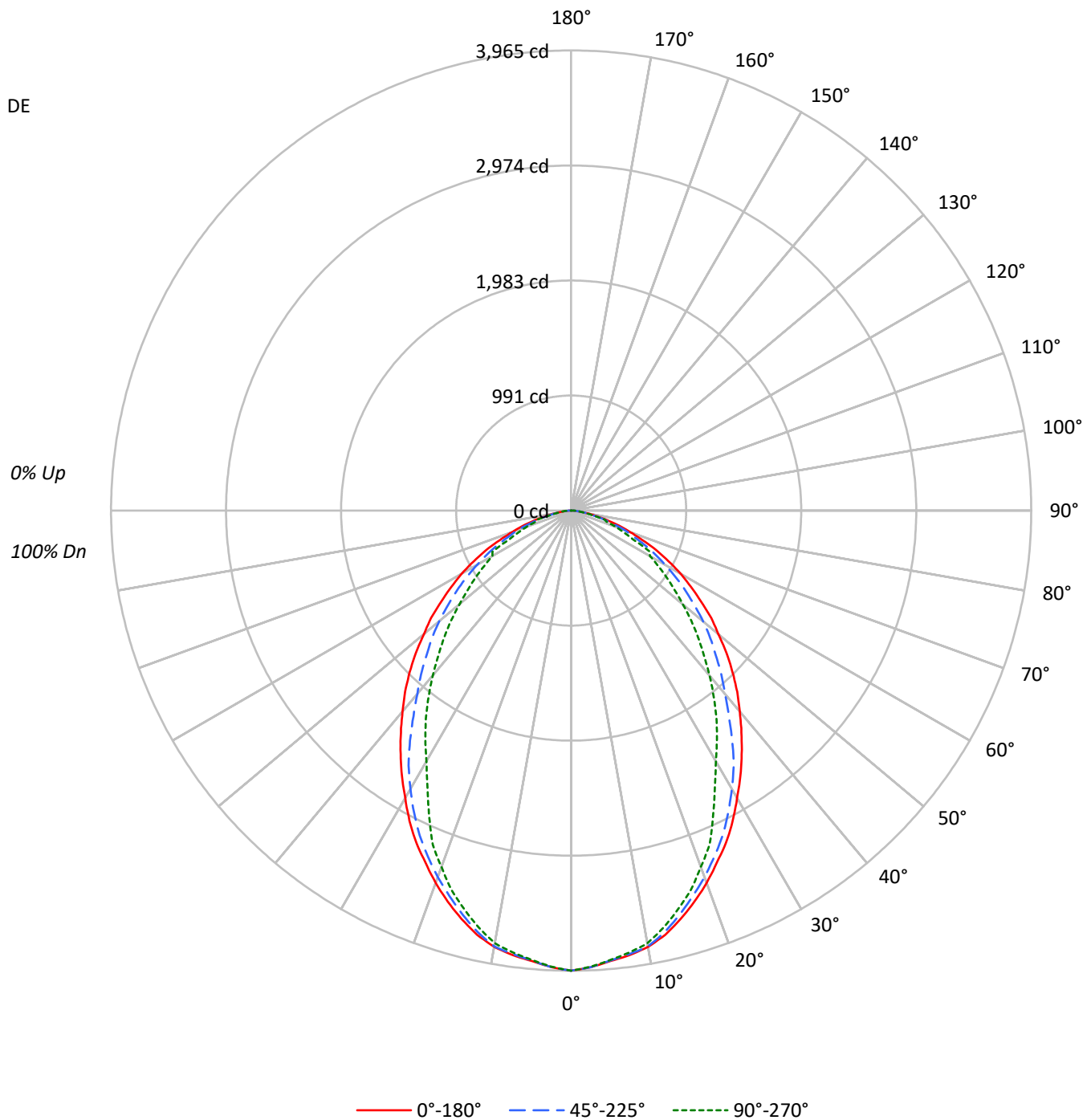
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10669	10669	10669
5°	10524	10511	10499
10°	10432	10420	10345
15°	10151	10049	9908
20°	9778	9621	9358
25°	9376	9172	8600
30°	8887	8602	7747
35°	8417	7950	7167
40°	7938	7245	6521
45°	7483	6698	5896
50°	6927	6217	5257
55°	6408	5634	4709
60°	5871	5032	4218
65°	5165	4407	3736
70°	4255	3858	3173
75°	3383	2955	3097
80°	2273	2131	1988
85°	1414	1698	1982

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7483 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	369.0	4.7
10°-20°	1012.8	13.0
20°-30°	1402.2	18.0
30°-40°	1495.1	19.2
40°-50°	1364.0	17.5
50°-60°	1068.6	13.7
60°-70°	696.4	8.9
70°-80°	308.5	4.0
80°-90°	66.3	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°	2784.0	35.8
0°-40°	4279.2	55.0
0°-60°	6711.7	86.2
0°-90°	7783.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7783.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3965	3965	3965	3965	3965	
5°	3896	3891	3891	3887	3887	370
15°	3644	3644	3607	3570	3557	1024
25°	3158	3140	3089	2979	2897	1450
35°	2562	2544	2420	2237	2182	1602
45°	1966	1925	1760	1613	1549	1515
55°	1366	1325	1201	1059	1004	1225
65°	811	765	692	706	587	799
75°	325	302	284	270	298	349
85°	46	50	55	60	64	64
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3964.6	3964.6	3964.6	3964.6	3964.6
2.5°	3937.1	3937.1	3937.1	3932.5	3932.5
5°	3895.8	3891.2	3891.2	3886.6	3886.6
7.5°	3863.7	3859.1	3854.6	3850.0	3840.8
10°	3817.9	3817.9	3813.3	3790.4	3785.8
12.5°	3744.6	3740.0	3721.6	3689.6	3680.4
15°	3643.7	3643.7	3607.1	3570.4	3556.6
17.5°	3533.7	3529.1	3483.3	3446.6	3428.3
20°	3414.6	3405.4	3359.6	3300.0	3267.9
22.5°	3281.6	3281.6	3226.6	3148.7	3116.6
25°	3157.9	3139.6	3089.1	2979.1	2896.6
27.5°	3015.8	2988.3	2933.3	2777.5	2681.2
30°	2860.0	2846.2	2768.3	2566.6	2493.3
32.5°	2713.3	2690.4	2607.9	2397.1	2337.5
35°	2562.1	2543.7	2420.0	2236.7	2181.7
37.5°	2410.8	2387.9	2232.1	2085.4	2016.7
40°	2259.6	2232.1	2062.5	1929.6	1856.2
42.5°	2117.5	2080.8	1915.8	1773.7	1691.2
45°	1966.2	1925.0	1760.0	1613.3	1549.2
47.5°	1815.0	1778.3	1627.1	1475.8	1402.5
50°	1654.6	1622.5	1485.0	1333.7	1255.8
52.5°	1521.7	1471.2	1338.3	1187.1	1122.9
55°	1365.8	1324.6	1200.8	1058.7	1003.7
57.5°	1223.7	1182.5	1067.9	935.0	889.2
60°	1090.8	1031.2	935.0	820.4	783.7
62.5°	944.2	898.3	815.8	719.6	765.4
65°	811.2	765.4	692.1	705.8	586.7
67.5°	664.6	641.7	577.5	513.3	495.0
70°	540.8	513.3	490.4	421.7	403.3
72.5°	430.8	403.3	371.2	334.6	320.8
75°	325.4	302.5	284.2	270.4	297.9
77.5°	224.6	215.4	201.7	187.9	183.3
80°	146.7	142.1	137.5	132.9	128.3
82.5°	87.1	87.1	87.1	87.1	87.1
85°	45.8	50.4	55.0	59.6	64.2
87.5°	27.5	27.5	32.1	36.7	41.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)