

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: P561450

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561450
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-40-UNV-93-94-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

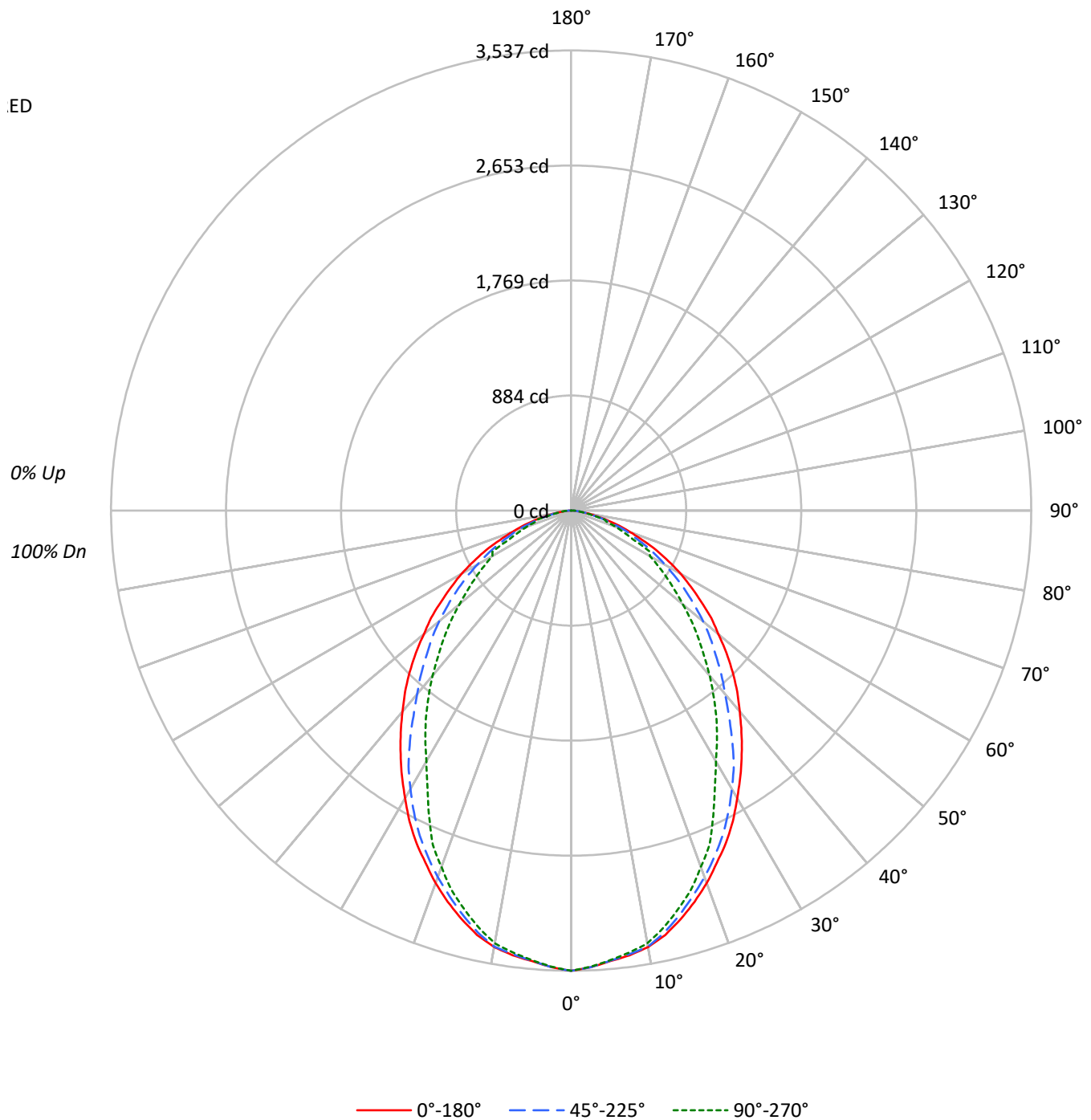
Lumens per Lamp: N/A
Luminaire Lumens: 6944.0 lumens
Efficiency: N/A
Efficacy: 80.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	9519	9519	9519
5°	9389	9378	9367
10°	9308	9296	9230
15°	9057	8966	8840
20°	8724	8584	8349
25°	8366	8183	7674
30°	7929	7675	6912
35°	7509	7093	6394
40°	7082	6464	5818
45°	6676	5976	5260
50°	6180	5547	4690
55°	5717	5027	4201
60°	5238	4490	3764
65°	4609	3932	3333
70°	3796	3442	2832
75°	3018	2636	2764
80°	2029	1901	1774
85°	1263	1516	1766

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6676 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	329.3	4.7
10°-20°	903.6	13.0
20°-30°	1251.0	18.0
30°-40°	1334.0	19.2
40°-50°	1217.0	17.5
50°-60°	953.4	13.7
60°-70°	621.4	8.9
70°-80°	275.3	4.0
80°-90°	59.1	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°	2483.9	35.8
0°-40°	3817.9	55.0
0°-60°	5988.2	86.2
0°-90°	6944.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6944.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3537	3537	3537	3537	3537	
5°	3476	3472	3472	3468	3468	330
15°	3251	3251	3218	3186	3173	914
25°	2818	2801	2756	2658	2584	1294
35°	2286	2270	2159	1996	1946	1429
45°	1754	1718	1570	1439	1382	1351
55°	1219	1182	1071	945	896	1093
65°	724	683	618	630	523	713
75°	290	270	254	241	266	311
85°	41	45	49	53	57	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3537.2	3537.2	3537.2	3537.2	3537.2
2.5°	3512.6	3512.6	3512.6	3508.6	3508.6
5°	3475.8	3471.8	3471.8	3467.7	3467.7
7.5°	3447.2	3443.1	3439.0	3435.0	3426.8
10°	3406.3	3406.3	3402.2	3381.8	3377.7
12.5°	3340.9	3336.8	3320.5	3291.8	3283.6
15°	3250.9	3250.9	3218.2	3185.5	3173.2
17.5°	3152.8	3148.7	3107.8	3075.1	3058.7
20°	3046.5	3038.3	2997.4	2944.2	2915.6
22.5°	2927.9	2927.9	2878.8	2809.3	2780.7
25°	2817.5	2801.1	2756.1	2658.0	2584.4
27.5°	2690.7	2666.2	2617.1	2478.1	2392.2
30°	2551.7	2539.4	2469.9	2290.0	2224.5
32.5°	2420.8	2400.4	2326.8	2138.7	2085.5
35°	2285.9	2269.5	2159.1	1995.5	1946.5
37.5°	2150.9	2130.5	1991.5	1860.6	1799.3
40°	2016.0	1991.5	1840.2	1721.6	1656.1
42.5°	1889.2	1856.5	1709.3	1582.5	1508.9
45°	1754.3	1717.5	1570.3	1439.4	1382.2
47.5°	1619.3	1586.6	1451.7	1316.7	1251.3
50°	1476.2	1447.6	1324.9	1190.0	1120.4
52.5°	1357.6	1312.6	1194.1	1059.1	1001.9
55°	1218.6	1181.8	1071.4	944.6	895.5
57.5°	1091.8	1055.0	952.8	834.2	793.3
60°	973.2	920.1	834.2	732.0	699.3
62.5°	842.4	801.5	727.9	642.0	682.9
65°	723.8	682.9	617.5	629.7	523.4
67.5°	592.9	572.5	515.2	458.0	441.6
70°	482.5	458.0	437.5	376.2	359.9
72.5°	384.4	359.9	331.2	298.5	286.2
75°	290.3	269.9	253.5	241.3	265.8
77.5°	200.4	192.2	179.9	167.7	163.6
80°	130.9	126.8	122.7	118.6	114.5
82.5°	77.7	77.7	77.7	77.7	77.7
85°	40.9	45.0	49.1	53.2	57.2
87.5°	24.5	24.5	28.6	32.7	36.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)