

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: P564112

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-82-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564112
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-LD4-4STD-40-UNV-82-84-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12319.0 lumens
Efficiency: N/A
Efficacy: 92.5 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

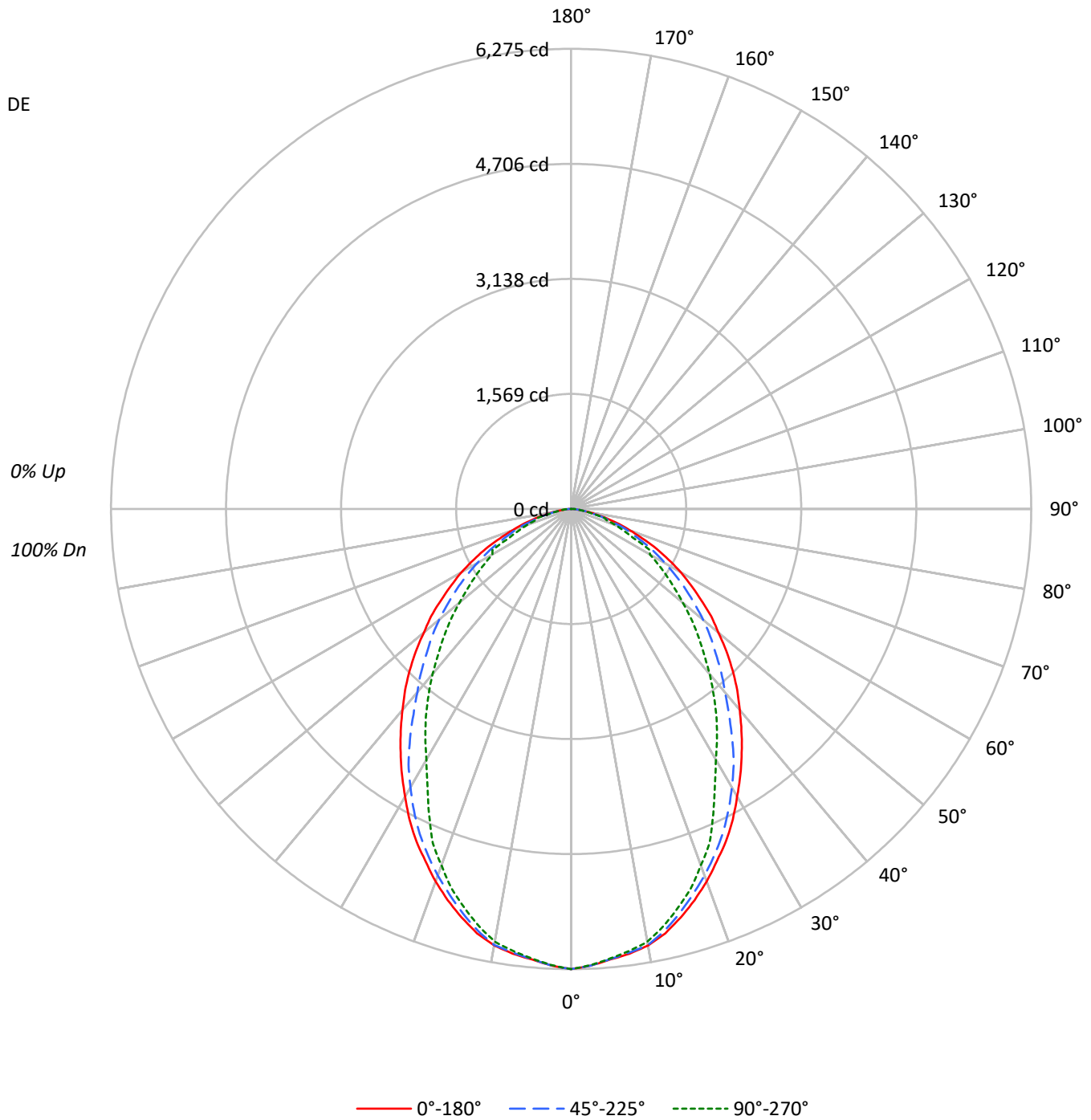
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P564112

CATALOG NUMBER: FSR-24-4-LD4-4STD-40-UNV-82-84-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P564112

CATALOG NUMBER: FSR-24-4-LD4-4STD-40-UNV-82-84-EDD-90

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°	8443	8443	8443
5°	8328	8319	8309
10°	8256	8246	8187
15°	8034	7953	7842
20°	7739	7614	7406
25°	7420	7259	6807
30°	7033	6808	6131
35°	6661	6292	5672
40°	6282	5734	5161
45°	5922	5301	4666
50°	5482	4920	4161
55°	5071	4459	3727
60°	4646	3982	3338
65°	4088	3487	2956
70°	3367	3054	2511
75°	2678	2338	2451
80°	1798	1686	1574
85°	1119	1345	1568

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5922 cd/sqm



TEST NUMBER: P564112

CATALOG NUMBER: FSR-24-4-LD4-4STD-40-UNV-82-84-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	584.1	4.7
10°-20°	1603.1	13.0
20°-30°	2219.4	18.0
30°-40°	2366.5	19.2
40°-50°	2158.9	17.5
50°-60°	1691.4	13.7
60°-70°	1102.3	8.9
70°-80°	488.4	4.0
80°-90°	104.8	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°	4406.6	35.8
0°-40°	6773.1	55.0
0°-60°	10623.4	86.2
0°-90°	12319.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12319.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6275	6275	6275	6275	6275	
5°	6166	6159	6159	6152	6152	585
15°	5767	5767	5709	5651	5630	1621
25°	4998	4969	4890	4715	4585	2295
35°	4055	4026	3830	3540	3453	2535
45°	3112	3047	2786	2554	2452	2397
55°	2162	2096	1901	1676	1589	1939
65°	1284	1212	1095	1117	929	1265
75°	515	479	450	428	472	552
85°	72	80	87	94	102	101
90°	0	0	0	0	0	



TEST NUMBER: P564112

CATALOG NUMBER: FSR-24-4-LD4-4STD-40-UNV-82-84-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6275.1	6275.1	6275.1	6275.1	6275.1
2.5°	6231.6	6231.6	6231.6	6224.4	6224.4
5°	6166.3	6159.1	6159.1	6151.8	6151.8
7.5°	6115.5	6108.3	6101.0	6093.8	6079.3
10°	6043.0	6043.0	6035.7	5999.5	5992.2
12.5°	5926.9	5919.7	5890.6	5839.9	5825.4
15°	5767.3	5767.3	5709.3	5651.2	5629.5
17.5°	5593.2	5586.0	5513.4	5455.4	5426.4
20°	5404.6	5390.1	5317.5	5223.2	5172.5
22.5°	5194.2	5194.2	5107.2	4983.8	4933.1
25°	4998.3	4969.3	4889.5	4715.4	4584.8
27.5°	4773.5	4729.9	4642.9	4396.2	4243.9
30°	4526.8	4505.0	4381.7	4062.5	3946.4
32.5°	4294.7	4258.4	4127.8	3794.1	3699.8
35°	4055.3	4026.2	3830.4	3540.2	3453.1
37.5°	3815.9	3779.6	3532.9	3300.8	3192.0
40°	3576.5	3532.9	3264.5	3054.1	2938.1
42.5°	3351.6	3293.5	3032.4	2807.5	2676.9
45°	3112.2	3046.9	2785.7	2553.6	2452.0
47.5°	2872.8	2814.7	2575.3	2335.9	2219.9
50°	2618.9	2568.1	2350.5	2111.1	1987.7
52.5°	2408.5	2328.7	2118.3	1878.9	1777.4
55°	2161.8	2096.5	1900.7	1675.8	1588.7
57.5°	1936.9	1871.7	1690.3	1479.9	1407.4
60°	1726.6	1632.3	1479.9	1298.6	1240.5
62.5°	1494.4	1421.9	1291.3	1139.0	1211.5
65°	1284.0	1211.5	1095.4	1117.2	928.6
67.5°	1051.9	1015.6	914.1	812.5	783.5
70°	856.0	812.5	776.2	667.4	638.4
72.5°	681.9	638.4	587.6	529.6	507.8
75°	515.1	478.8	449.8	428.0	471.5
77.5°	355.5	341.0	319.2	297.4	290.2
80°	232.1	224.9	217.6	210.4	203.1
82.5°	137.8	137.8	137.8	137.8	137.8
85°	72.5	79.8	87.1	94.3	101.6
87.5°	43.5	43.5	50.8	58.0	65.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)