

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: P564125

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-82-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564125
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-82-96-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14533.0 lumens
Efficiency: N/A
Efficacy: 109.1 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

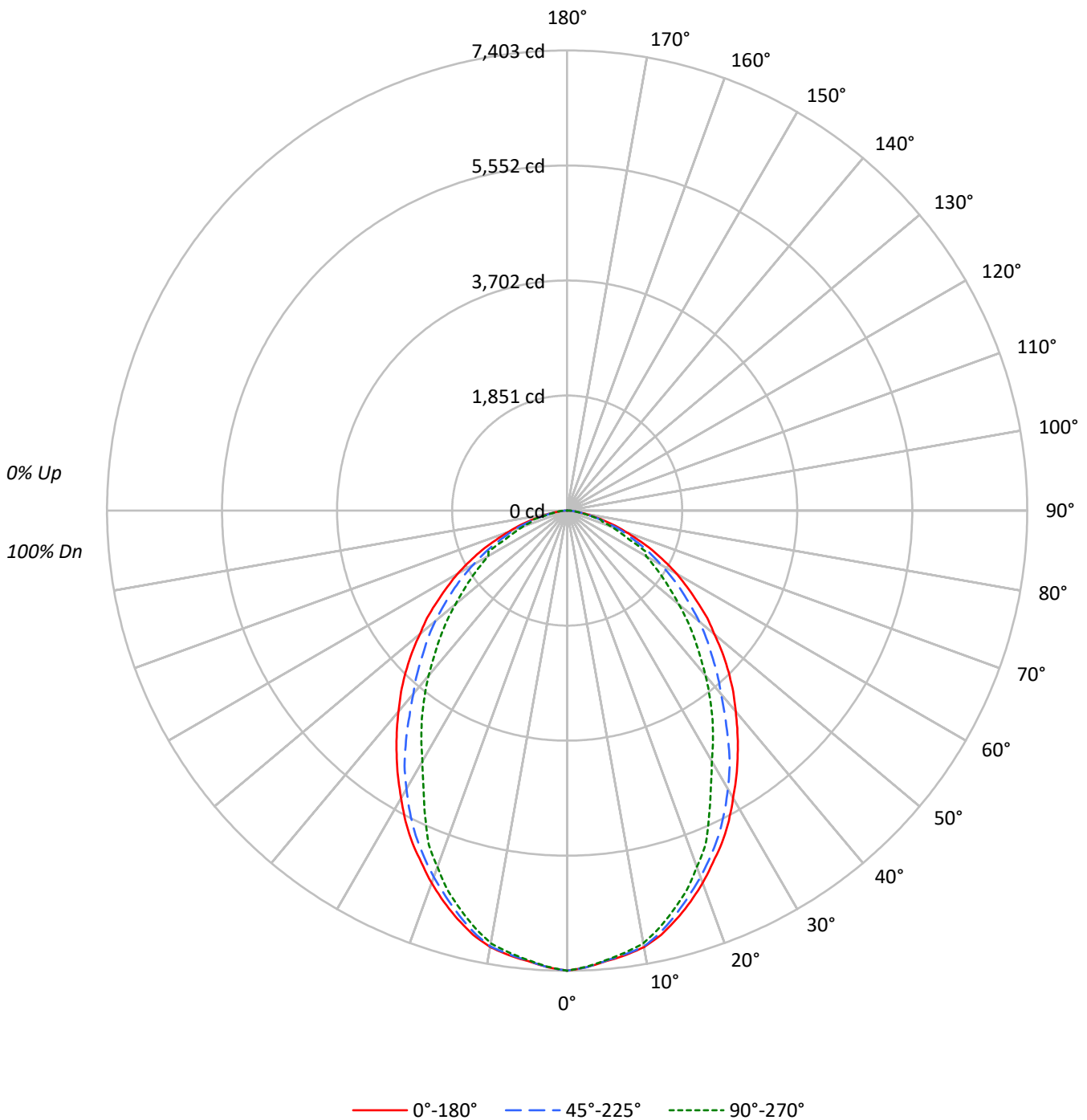
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9961	9961	9961
5°	9825	9814	9802
10°	9740	9728	9658
15°	9477	9382	9251
20°	9129	8982	8737
25°	8754	8564	8030
30°	8297	8031	7233
35°	7858	7422	6691
40°	7411	6764	6088
45°	6986	6253	5504
50°	6467	5804	4909
55°	5983	5260	4397
60°	5481	4698	3938
65°	4823	4114	3488
70°	3973	3602	2963
75°	3159	2758	2892
80°	2122	1989	1857
85°	1321	1585	1849

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6986 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	689.1	4.7
10°-20°	1891.2	13.0
20°-30°	2618.2	18.0
30°-40°	2791.8	19.2
40°-50°	2547.0	17.5
50°-60°	1995.3	13.7
60°-70°	1300.5	8.9
70°-80°	576.2	4.0
80°-90°	123.7	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°	5198.6	35.8
0°-40°	7990.4	55.0
0°-60°	12532.7	86.2
0°-90°	14533.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14533.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7403	7403	7403	7403	7403	
5°	7274	7266	7266	7257	7257	691
15°	6804	6804	6735	6667	6641	1913
25°	5897	5862	5768	5563	5409	2707
35°	4784	4750	4519	4176	4074	2991
45°	3672	3594	3286	3012	2893	2828
55°	2550	2473	2242	1977	1874	2288
65°	1515	1429	1292	1318	1096	1493
75°	608	565	531	505	556	651
85°	86	94	103	111	120	119
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7402.9	7402.9	7402.9	7402.9	7402.9
2.5°	7351.6	7351.6	7351.6	7343.0	7343.0
5°	7274.5	7266.0	7266.0	7257.4	7257.4
7.5°	7214.6	7206.1	7197.5	7189.0	7171.8
10°	7129.1	7129.1	7120.5	7077.7	7069.1
12.5°	6992.1	6983.6	6949.3	6889.4	6872.3
15°	6803.8	6803.8	6735.4	6666.9	6641.2
17.5°	6598.4	6589.9	6504.3	6435.8	6401.6
20°	6375.9	6358.8	6273.2	6162.0	6102.1
22.5°	6127.7	6127.7	6025.0	5879.5	5819.6
25°	5896.7	5862.4	5768.3	5562.9	5408.8
27.5°	5631.4	5580.0	5477.3	5186.3	5006.6
30°	5340.4	5314.7	5169.2	4792.6	4655.7
32.5°	5066.5	5023.7	4869.7	4476.0	4364.7
35°	4784.1	4749.8	4518.8	4176.4	4073.7
37.5°	4501.7	4458.9	4167.9	3894.0	3765.6
40°	4219.2	4167.9	3851.2	3603.0	3466.1
42.5°	3953.9	3885.5	3577.4	3312.1	3158.0
45°	3671.5	3594.5	3286.4	3012.5	2892.7
47.5°	3389.1	3320.6	3038.2	2755.8	2618.8
50°	3089.5	3029.6	2772.9	2490.5	2345.0
52.5°	2841.4	2747.2	2499.0	2216.6	2096.8
55°	2550.4	2473.3	2242.3	1977.0	1874.3
57.5°	2285.1	2208.0	1994.1	1745.9	1660.3
60°	2036.9	1925.6	1745.9	1531.9	1463.5
62.5°	1763.0	1677.4	1523.4	1343.7	1429.2
65°	1514.8	1429.2	1292.3	1318.0	1095.5
67.5°	1241.0	1198.2	1078.3	958.5	924.3
70°	1009.9	958.5	915.7	787.4	753.1
72.5°	804.5	753.1	693.2	624.8	599.1
75°	607.6	564.8	530.6	504.9	556.3
77.5°	419.4	402.2	376.6	350.9	342.3
80°	273.9	265.3	256.7	248.2	239.6
82.5°	162.6	162.6	162.6	162.6	162.6
85°	85.6	94.1	102.7	111.3	119.8
87.5°	51.3	51.3	59.9	68.5	77.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)