

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: P564060

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-82-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564060
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-35-UNV-82-96-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12040.0 lumens
Efficiency: N/A
Efficacy: 90.4 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

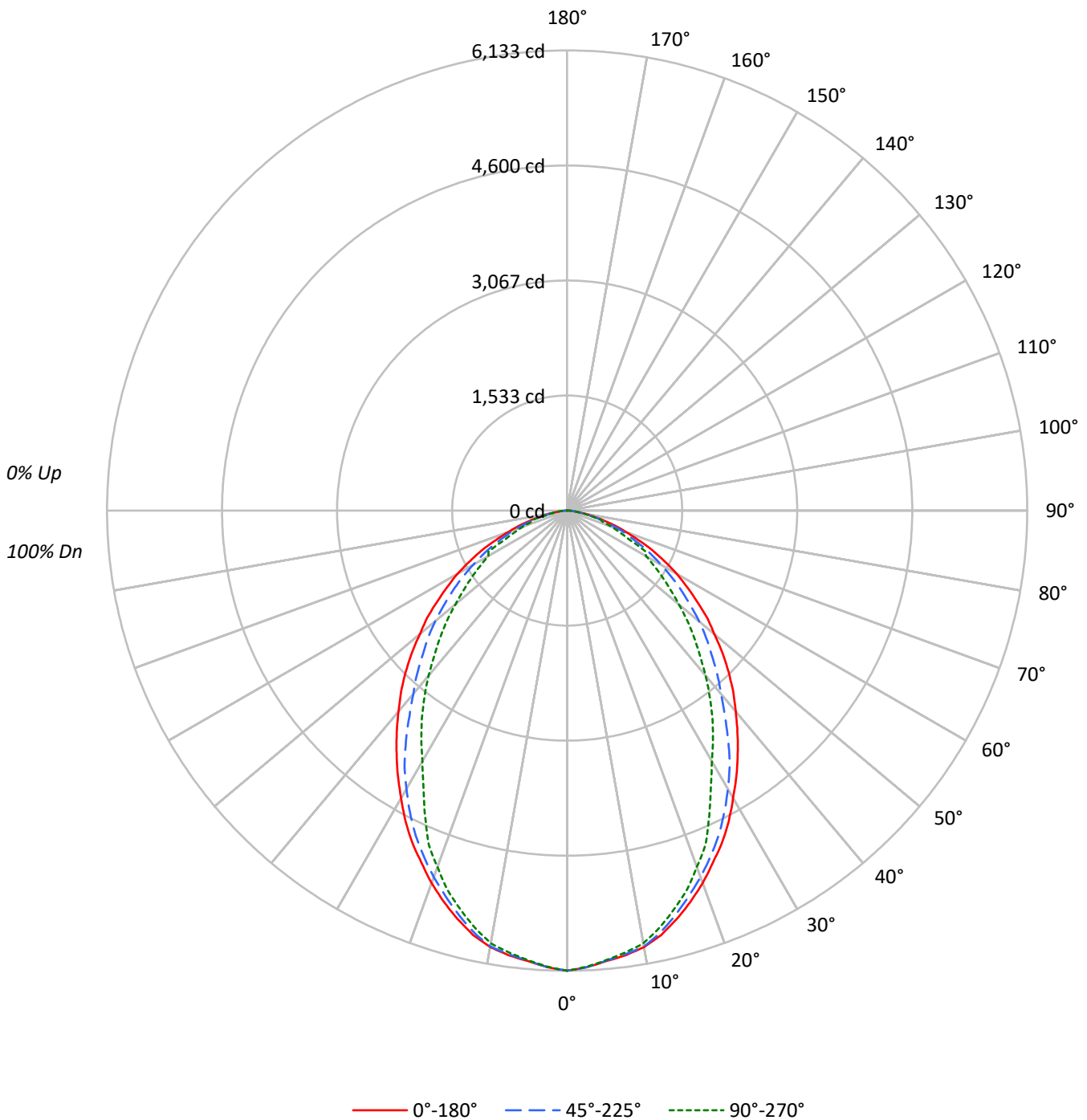
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8252	8252	8252
5°	8140	8130	8121
10°	8069	8059	8001
15°	7852	7773	7664
20°	7563	7441	7238
25°	7252	7095	6652
30°	6874	6653	5993
35°	6510	6149	5543
40°	6140	5604	5044
45°	5788	5181	4560
50°	5358	4809	4066
55°	4956	4358	3643
60°	4541	3892	3263
65°	3996	3408	2889
70°	3291	2985	2454
75°	2617	2285	2396
80°	1758	1648	1538
85°	1095	1314	1533

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5788 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	570.9	4.7
10°-20°	1566.8	13.0
20°-30°	2169.1	18.0
30°-40°	2312.9	19.2
40°-50°	2110.0	17.5
50°-60°	1653.1	13.7
60°-70°	1077.4	8.9
70°-80°	477.3	4.0
80°-90°	102.5	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°	4306.8	35.8
0°-40°	6619.7	55.0
0°-60°	10382.8	86.2
0°-90°	12040.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12040.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6133	6133	6133	6133	6133	
5°	6027	6020	6020	6012	6012	572
15°	5637	5637	5580	5523	5502	1585
25°	4885	4857	4779	4609	4481	2243
35°	3963	3935	3744	3460	3375	2478
45°	3042	2978	2723	2496	2396	2343
55°	2113	2049	1858	1638	1553	1895
65°	1255	1184	1071	1092	908	1237
75°	503	468	440	418	461	540
85°	71	78	85	92	99	98
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6133.0	6133.0	6133.0	6133.0	6133.0
2.5°	6090.5	6090.5	6090.5	6083.4	6083.4
5°	6026.7	6019.6	6019.6	6012.5	6012.5
7.5°	5977.0	5969.9	5962.9	5955.8	5941.6
10°	5906.1	5906.1	5899.0	5863.6	5856.5
12.5°	5792.7	5785.6	5757.2	5707.6	5693.4
15°	5636.7	5636.7	5580.0	5523.3	5502.0
17.5°	5466.5	5459.4	5388.5	5331.8	5303.5
20°	5282.2	5268.0	5197.1	5104.9	5055.3
22.5°	5076.6	5076.6	4991.5	4871.0	4821.3
25°	4885.1	4856.8	4778.8	4608.6	4481.0
27.5°	4665.3	4622.8	4537.7	4296.7	4147.8
30°	4424.3	4403.0	4282.5	3970.5	3857.1
32.5°	4197.4	4161.9	4034.3	3708.2	3616.0
35°	3963.4	3935.1	3743.6	3460.0	3374.9
37.5°	3729.4	3694.0	3452.9	3226.0	3119.7
40°	3495.5	3452.9	3190.6	2985.0	2871.5
42.5°	3275.7	3218.9	2963.7	2743.9	2616.3
45°	3041.7	2977.9	2722.6	2495.7	2396.5
47.5°	2807.7	2751.0	2517.0	2283.0	2169.6
50°	2559.6	2509.9	2297.2	2063.2	1942.7
52.5°	2353.9	2276.0	2070.3	1836.4	1737.1
55°	2112.9	2049.1	1857.6	1637.8	1552.8
57.5°	1893.1	1829.3	1652.0	1446.4	1375.5
60°	1687.5	1595.3	1446.4	1269.1	1212.4
62.5°	1460.6	1389.7	1262.1	1113.2	1184.1
65°	1255.0	1184.1	1070.6	1091.9	907.5
67.5°	1028.1	992.6	893.4	794.1	765.7
70°	836.6	794.1	758.7	652.3	623.9
72.5°	666.5	623.9	574.3	517.6	496.3
75°	503.4	468.0	439.6	418.3	460.9
77.5°	347.4	333.2	312.0	290.7	283.6
80°	226.9	219.8	212.7	205.6	198.5
82.5°	134.7	134.7	134.7	134.7	134.7
85°	70.9	78.0	85.1	92.2	99.3
87.5°	42.5	42.5	49.6	56.7	63.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)