

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: P563648

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563648
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-LD4-4HI-35-UNV-81-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15220.0 lumens
Efficiency: N/A
Efficacy: 88.1 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

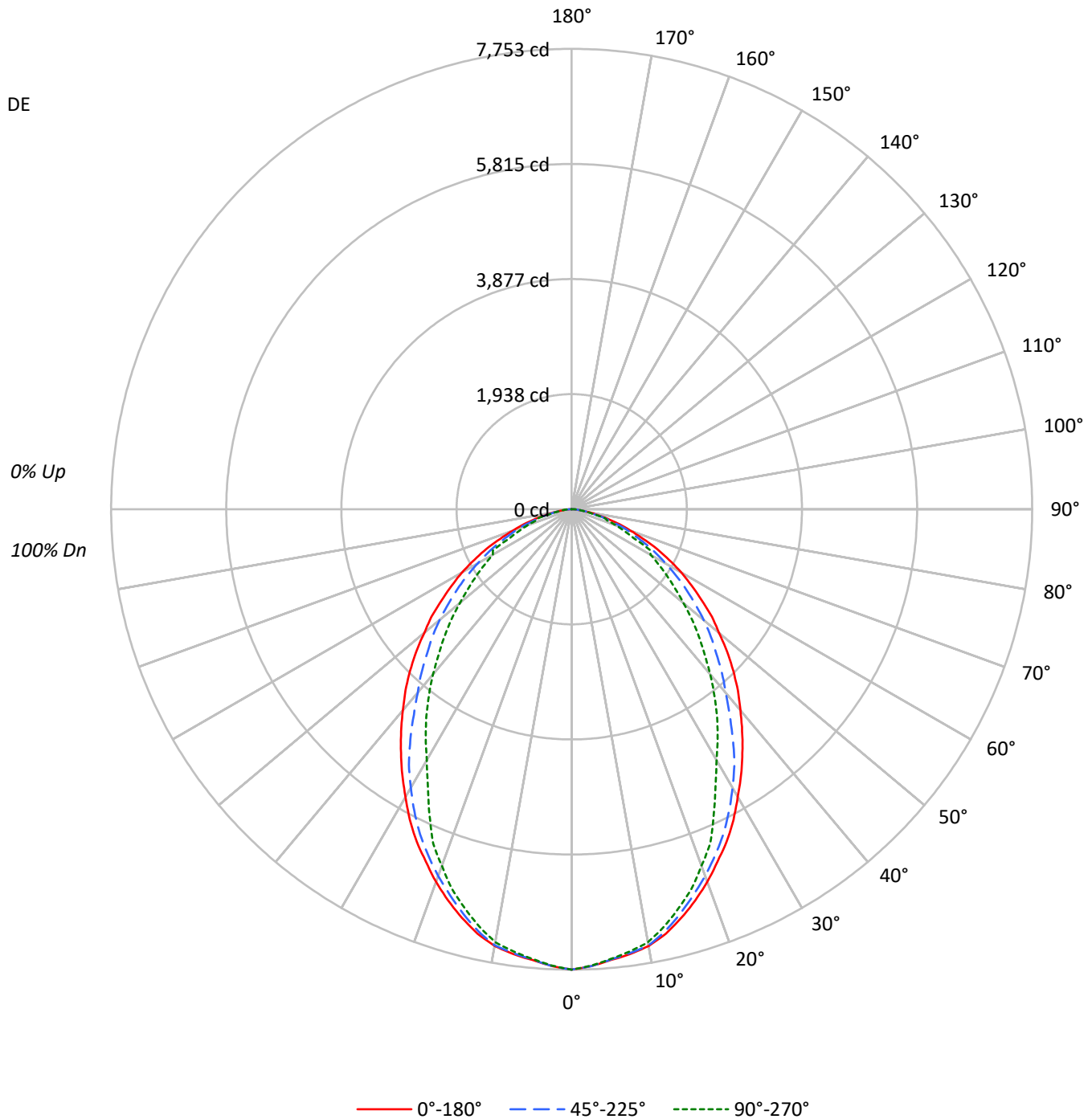
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	10431	10431	10431
5°	10290	10278	10265
10°	10201	10188	10115
15°	9925	9826	9688
20°	9561	9407	9150
25°	9168	8968	8409
30°	8689	8411	7575
35°	8229	7773	7008
40°	7761	7084	6376
45°	7316	6549	5764
50°	6773	6079	5141
55°	6265	5509	4605
60°	5740	4920	4124
65°	5051	4309	3652
70°	4161	3773	3103
75°	3308	2889	3029
80°	2222	2084	1945
85°	1383	1661	1937

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7316 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	721.7	4.7
10°-20°	1980.6	13.0
20°-30°	2742.0	18.0
30°-40°	2923.8	19.2
40°-50°	2667.3	17.5
50°-60°	2089.7	13.7
60°-70°	1361.9	8.9
70°-80°	603.4	4.0
80°-90°	129.6	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°	5444.3	35.8
0°-40°	8368.1	55.0
0°-60°	13125.1	86.2
0°-90°	15220.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15220.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7753	7753	7753	7753	7753	
5°	7618	7610	7610	7600	7600	723
15°	7126	7126	7054	6982	6955	2003
25°	6175	6140	6041	5826	5664	2835
35°	5010	4974	4732	4374	4266	3132
45°	3845	3764	3442	3155	3029	2962
55°	2671	2590	2348	2070	1963	2396
65°	1586	1497	1353	1380	1147	1563
75°	636	592	556	529	583	682
85°	90	99	108	116	126	124
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7752.9	7752.9	7752.9	7752.9	7752.9
2.5°	7699.1	7699.1	7699.1	7690.1	7690.1
5°	7618.4	7609.5	7609.5	7600.5	7600.5
7.5°	7555.7	7546.7	7537.8	7528.8	7510.9
10°	7466.1	7466.1	7457.1	7412.3	7403.3
12.5°	7322.6	7313.7	7277.8	7215.1	7197.2
15°	7125.5	7125.5	7053.8	6982.1	6955.2
17.5°	6910.4	6901.4	6811.8	6740.1	6704.2
20°	6677.3	6659.4	6569.8	6453.3	6390.5
22.5°	6417.4	6417.4	6309.8	6157.5	6094.7
25°	6175.4	6139.6	6041.0	5825.9	5664.5
27.5°	5897.6	5843.8	5736.2	5431.5	5243.3
30°	5592.8	5565.9	5413.6	5019.2	4875.8
32.5°	5306.0	5261.2	5099.9	4687.6	4571.1
35°	5010.2	4974.4	4732.4	4373.9	4266.3
37.5°	4714.5	4669.6	4364.9	4078.1	3943.7
40°	4418.7	4364.9	4033.3	3773.4	3630.0
42.5°	4140.8	4069.1	3746.5	3468.6	3307.3
45°	3845.1	3764.4	3441.7	3154.9	3029.4
47.5°	3549.3	3477.6	3181.8	2886.0	2742.6
50°	3235.6	3172.8	2904.0	2608.2	2455.8
52.5°	2975.7	2877.1	2617.2	2321.4	2195.9
55°	2670.9	2590.3	2348.3	2070.4	1962.9
57.5°	2393.1	2312.4	2088.3	1828.4	1738.8
60°	2133.2	2016.6	1828.4	1604.4	1532.6
62.5°	1846.3	1756.7	1595.4	1407.2	1496.8
65°	1586.4	1496.8	1353.4	1380.3	1147.2
67.5°	1299.6	1254.8	1129.3	1003.8	968.0
70°	1057.6	1003.8	959.0	824.6	788.7
72.5°	842.5	788.7	726.0	654.3	627.4
75°	636.4	591.5	555.7	528.8	582.6
77.5°	439.2	421.3	394.4	367.5	358.5
80°	286.8	277.8	268.9	259.9	251.0
82.5°	170.3	170.3	170.3	170.3	170.3
85°	89.6	98.6	107.6	116.5	125.5
87.5°	53.8	53.8	62.7	71.7	80.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)