

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: P560976

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-82-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560976
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-LD4-1LO-35-UNV-82-84-EDD-90
Description: 1X4 FSR TROFFER WITH .187 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: 1930.0 lumens
Efficiency: N/A
Efficacy: 82.5 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

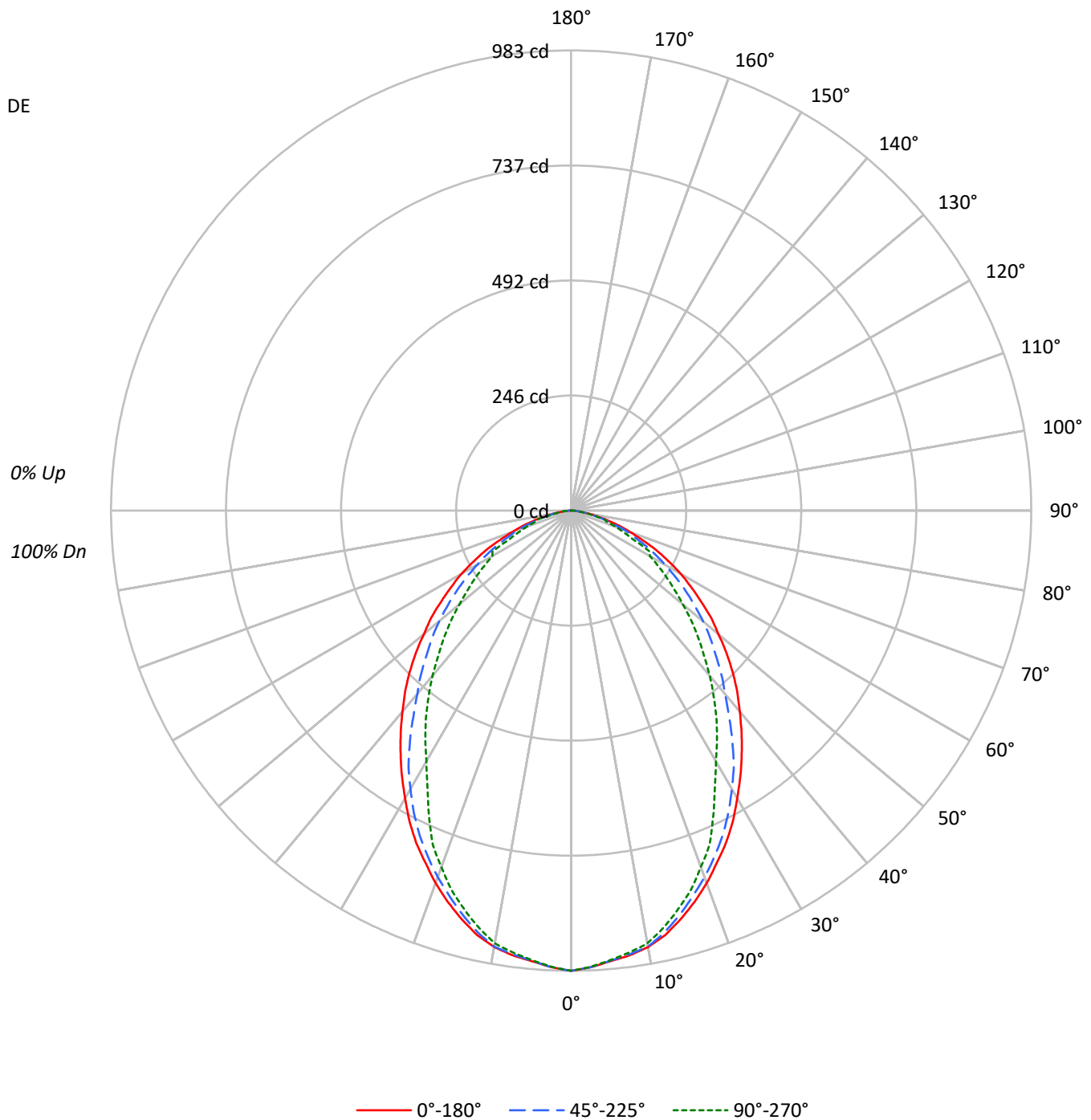
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2646	2646	2646
5°	2610	2606	2603
10°	2587	2584	2565
15°	2517	2492	2457
20°	2425	2386	2321
25°	2325	2274	2133
30°	2204	2133	1921
35°	2087	1971	1777
40°	1968	1796	1617
45°	1856	1661	1462
50°	1718	1541	1304
55°	1589	1397	1168
60°	1456	1248	1046
65°	1281	1093	926
70°	1055	957	787
75°	839	733	768
80°	564	528	493
85°	352	420	491

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1856 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.5	4.7
10°-20°	251.2	13.0
20°-30°	347.7	18.0
30°-40°	370.8	19.2
40°-50°	338.2	17.5
50°-60°	265.0	13.7
60°-70°	172.7	8.9
70°-80°	76.5	4.0
80°-90°	16.4	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
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0°-30°	690.4	35.8
0°-40°	1061.1	55.0
0°-60°	1664.4	86.2
0°-90°	1930.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1930.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	983	983	983	983	983	
5°	966	965	965	964	964	92
15°	904	904	894	885	882	254
25°	783	778	766	739	718	360
35°	635	631	600	555	541	397
45°	488	477	436	400	384	376
55°	339	328	298	262	249	304
65°	201	190	172	175	146	198
75°	81	75	70	67	74	86
85°	11	12	14	15	16	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	983.1	983.1	983.1	983.1	983.1
2.5°	976.3	976.3	976.3	975.2	975.2
5°	966.1	964.9	964.9	963.8	963.8
7.5°	958.1	957.0	955.8	954.7	952.4
10°	946.7	946.7	945.6	939.9	938.8
12.5°	928.6	927.4	922.9	914.9	912.7
15°	903.6	903.6	894.5	885.4	882.0
17.5°	876.3	875.1	863.8	854.7	850.1
20°	846.7	844.5	833.1	818.3	810.4
22.5°	813.8	813.8	800.1	780.8	772.9
25°	783.1	778.5	766.0	738.8	718.3
27.5°	747.9	741.0	727.4	688.7	664.9
30°	709.2	705.8	686.5	636.5	618.3
32.5°	672.8	667.2	646.7	594.4	579.6
35°	635.3	630.8	600.1	554.6	541.0
37.5°	597.8	592.1	553.5	517.1	500.1
40°	560.3	553.5	511.4	478.5	460.3
42.5°	525.1	516.0	475.1	439.8	419.4
45°	487.6	477.4	436.4	400.1	384.2
47.5°	450.1	441.0	403.5	366.0	347.8
50°	410.3	402.3	368.2	330.7	311.4
52.5°	377.3	364.8	331.9	294.4	278.5
55°	338.7	328.5	297.8	262.5	248.9
57.5°	303.5	293.2	264.8	231.9	220.5
60°	270.5	255.7	231.9	203.4	194.4
62.5°	234.1	222.8	202.3	178.4	189.8
65°	201.2	189.8	171.6	175.0	145.5
67.5°	164.8	159.1	143.2	127.3	122.7
70°	134.1	127.3	121.6	104.6	100.0
72.5°	106.8	100.0	92.1	83.0	79.6
75°	80.7	75.0	70.5	67.1	73.9
77.5°	55.7	53.4	50.0	46.6	45.5
80°	36.4	35.2	34.1	33.0	31.8
82.5°	21.6	21.6	21.6	21.6	21.6
85°	11.4	12.5	13.6	14.8	15.9
87.5°	6.8	6.8	8.0	9.1	10.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)