

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: P560986

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-82-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560986
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-82-94-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 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: 1935.0 lumens
Efficiency: N/A
Efficacy: 82.7 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

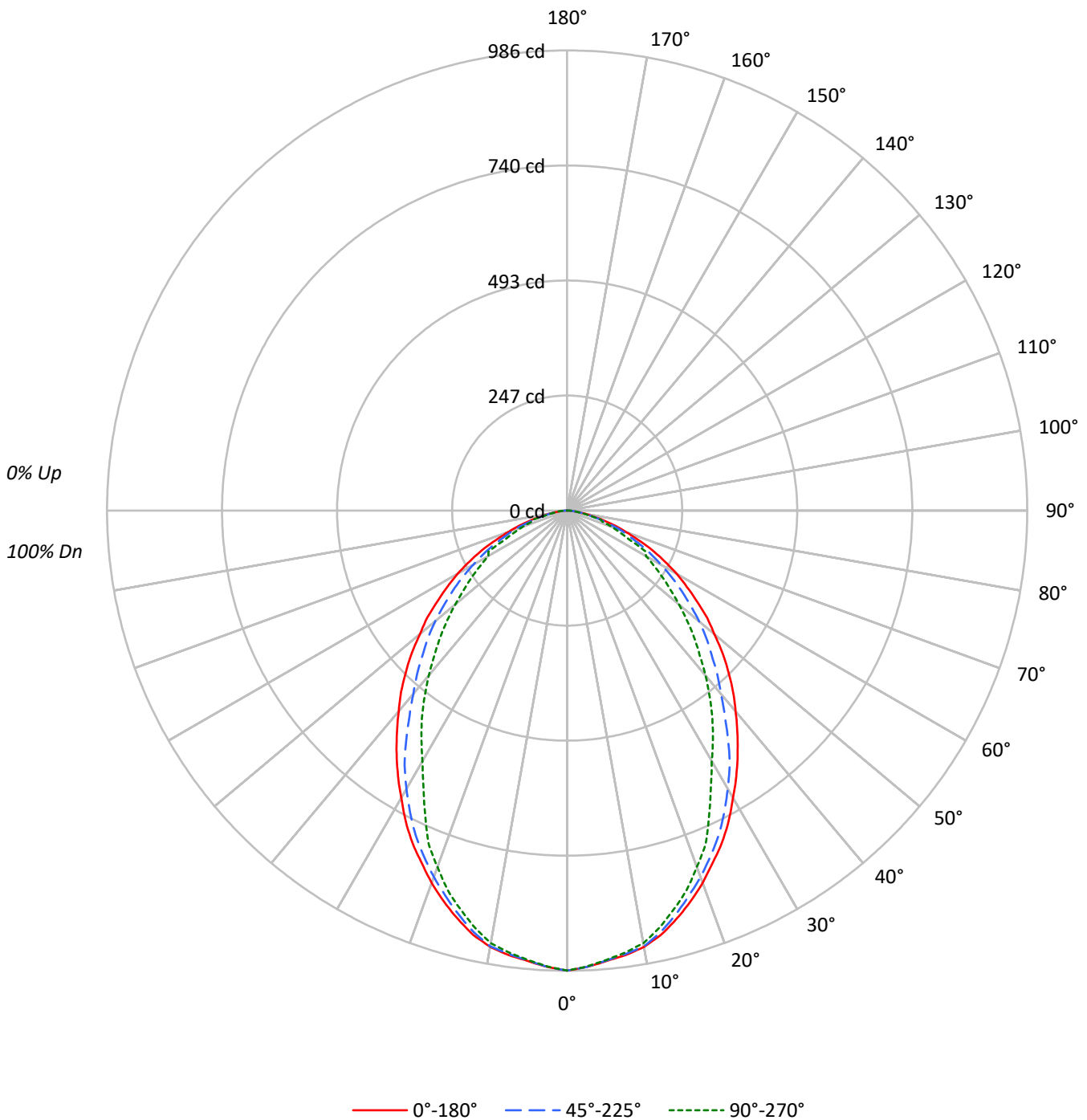
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2652	2652	2652
5°	2616	2613	2610
10°	2594	2591	2572
15°	2524	2498	2463
20°	2431	2392	2327
25°	2331	2280	2138
30°	2209	2139	1926
35°	2093	1977	1782
40°	1974	1801	1621
45°	1860	1665	1466
50°	1722	1546	1307
55°	1593	1400	1171
60°	1460	1251	1049
65°	1284	1096	929
70°	1058	959	789
75°	841	734	770
80°	566	530	494
85°	352	423	494

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1860 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.8	4.7
10°-20°	251.8	13.0
20°-30°	348.6	18.0
30°-40°	371.7	19.2
40°-50°	339.1	17.5
50°-60°	265.7	13.7
60°-70°	173.2	8.9
70°-80°	76.7	4.0
80°-90°	16.5	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°	692.2	35.8
0°-40°	1063.9	55.0
0°-60°	1668.7	86.2
0°-90°	1935.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1935.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	986	986	986	986	986	
5°	969	967	967	966	966	92
15°	906	906	897	888	884	255
25°	785	781	768	741	720	360
35°	637	632	602	556	542	398
45°	489	479	438	401	385	377
55°	340	329	298	263	250	305
65°	202	190	172	176	146	199
75°	81	75	71	67	74	87
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°	985.7	985.7	985.7	985.7	985.7
2.5°	978.8	978.8	978.8	977.7	977.7
5°	968.6	967.4	967.4	966.3	966.3
7.5°	960.6	959.5	958.3	957.2	954.9
10°	949.2	949.2	948.1	942.4	941.2
12.5°	931.0	929.8	925.3	917.3	915.0
15°	905.9	905.9	896.8	887.7	884.2
17.5°	878.6	877.4	866.0	856.9	852.3
20°	848.9	846.6	835.2	820.4	812.5
22.5°	815.9	815.9	802.2	782.8	774.9
25°	785.1	780.6	768.0	740.7	720.2
27.5°	749.8	743.0	729.3	690.5	666.6
30°	711.0	707.6	688.3	638.1	619.9
32.5°	674.6	668.9	648.4	596.0	581.1
35°	637.0	632.4	601.7	556.1	542.4
37.5°	599.4	593.7	554.9	518.5	501.4
40°	561.8	554.9	512.8	479.7	461.5
42.5°	526.4	517.3	476.3	441.0	420.5
45°	488.8	478.6	437.6	401.1	385.1
47.5°	451.2	442.1	404.5	366.9	348.7
50°	411.4	403.4	369.2	331.6	312.2
52.5°	378.3	365.8	332.7	295.1	279.2
55°	339.6	329.3	298.5	263.2	249.5
57.5°	304.2	294.0	265.5	232.5	221.1
60°	271.2	256.4	232.5	204.0	194.9
62.5°	234.7	223.3	202.8	178.9	190.3
65°	201.7	190.3	172.1	175.5	145.9
67.5°	165.2	159.5	143.6	127.6	123.1
70°	134.5	127.6	121.9	104.8	100.3
72.5°	107.1	100.3	92.3	83.2	79.8
75°	80.9	75.2	70.6	67.2	74.1
77.5°	55.8	53.6	50.1	46.7	45.6
80°	36.5	35.3	34.2	33.0	31.9
82.5°	21.7	21.7	21.7	21.7	21.7
85°	11.4	12.5	13.7	14.8	16.0
87.5°	6.8	6.8	8.0	9.1	10.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)