

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: P561067

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561067
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-40-UNV-93-94-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2516.0 lumens
Efficiency: N/A
Efficacy: 107.5 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

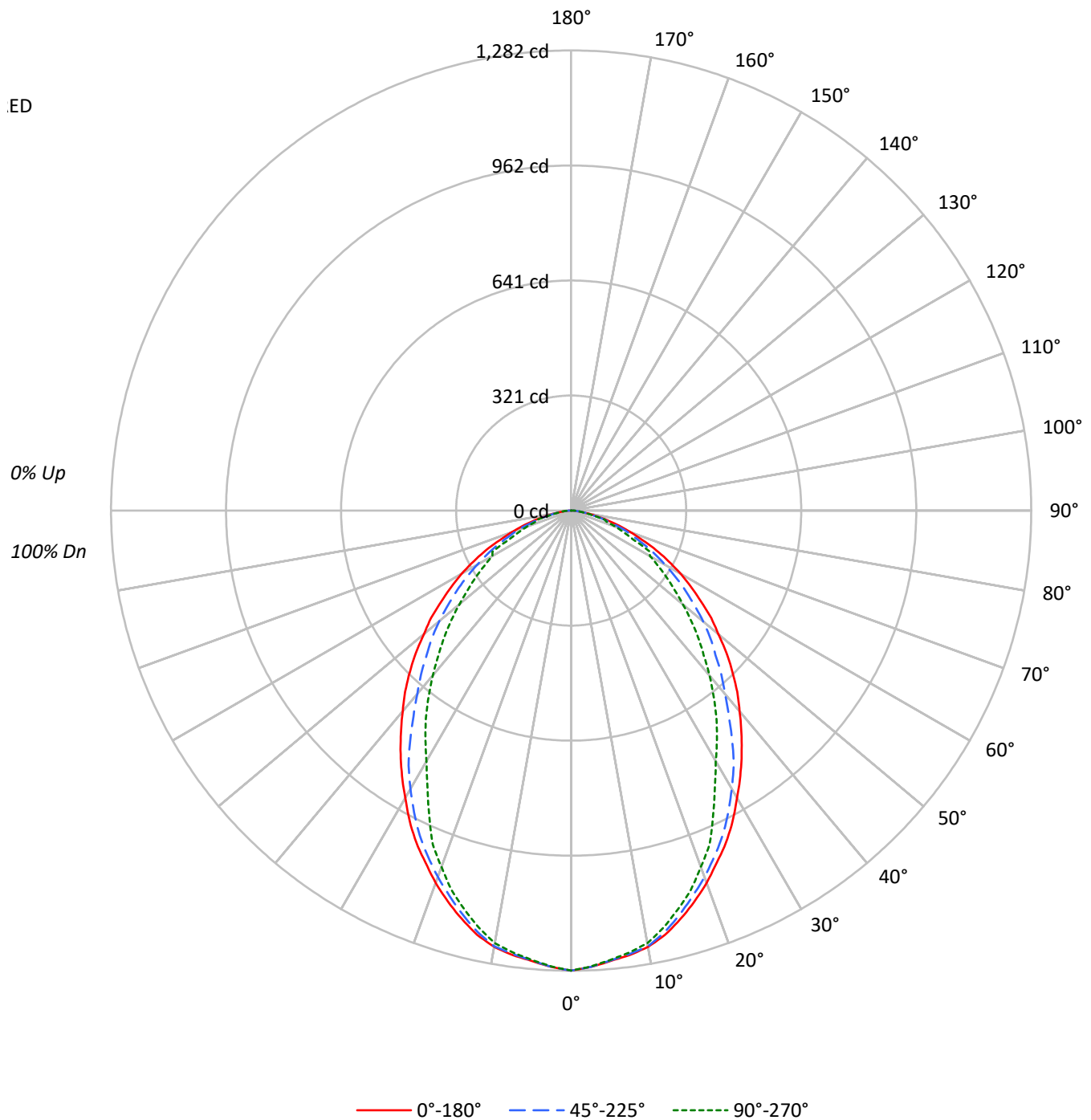
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3449	3449	3449
5°	3402	3398	3394
10°	3372	3368	3344
15°	3282	3248	3203
20°	3161	3110	3025
25°	3031	2965	2780
30°	2873	2781	2504
35°	2721	2570	2317
40°	2566	2342	2108
45°	2419	2165	1906
50°	2239	2010	1700
55°	2071	1821	1522
60°	1898	1627	1364
65°	1670	1424	1207
70°	1375	1247	1026
75°	1094	955	1001
80°	735	688	643
85°	457	550	639

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2419 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.3	4.7
10°-20°	327.4	13.0
20°-30°	453.3	18.0
30°-40°	483.3	19.2
40°-50°	440.9	17.5
50°-60°	345.4	13.7
60°-70°	225.1	8.9
70°-80°	99.7	4.0
80°-90°	21.4	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
0°-30°	900.0	35.8
0°-40°	1383.3	55.0
0°-60°	2169.7	86.2
0°-90°	2516.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2516.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1282	1282	1282	1282	1282	
5°	1259	1258	1258	1256	1256	120
15°	1178	1178	1166	1154	1150	331
25°	1021	1015	999	963	936	469
35°	828	822	782	723	705	518
45°	636	622	569	522	501	490
55°	442	428	388	342	324	396
65°	262	247	224	228	190	258
75°	105	98	92	87	96	113
85°	15	16	18	19	21	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1281.6	1281.6	1281.6	1281.6	1281.6
2.5°	1272.7	1272.7	1272.7	1271.2	1271.2
5°	1259.4	1257.9	1257.9	1256.4	1256.4
7.5°	1249.0	1247.5	1246.1	1244.6	1241.6
10°	1234.2	1234.2	1232.7	1225.3	1223.8
12.5°	1210.5	1209.0	1203.1	1192.7	1189.8
15°	1177.9	1177.9	1166.0	1154.2	1149.8
17.5°	1142.3	1140.9	1126.0	1114.2	1108.3
20°	1103.8	1100.9	1086.0	1066.8	1056.4
22.5°	1060.9	1060.9	1043.1	1017.9	1007.5
25°	1020.8	1014.9	998.6	963.1	936.4
27.5°	974.9	966.0	948.2	897.9	866.8
30°	924.5	920.1	894.9	829.7	806.0
32.5°	877.1	869.7	843.1	774.9	755.6
35°	828.2	822.3	782.3	723.0	705.3
37.5°	779.3	771.9	721.6	674.1	651.9
40°	730.4	721.6	666.7	623.8	600.1
42.5°	684.5	672.7	619.3	573.4	546.7
45°	635.6	622.3	568.9	521.5	500.8
47.5°	586.7	574.9	526.0	477.1	453.4
50°	534.9	524.5	480.1	431.2	406.0
52.5°	491.9	475.6	432.6	383.7	363.0
55°	441.5	428.2	388.2	342.3	324.5
57.5°	395.6	382.3	345.2	302.3	287.4
60°	352.6	333.4	302.3	265.2	253.4
62.5°	305.2	290.4	263.7	232.6	247.4
65°	262.2	247.4	223.7	228.2	189.6
67.5°	214.8	207.4	186.7	165.9	160.0
70°	174.8	165.9	158.5	136.3	130.4
72.5°	139.3	130.4	120.0	108.2	103.7
75°	105.2	97.8	91.9	87.4	96.3
77.5°	72.6	69.6	65.2	60.7	59.3
80°	47.4	45.9	44.4	43.0	41.5
82.5°	28.2	28.2	28.2	28.2	28.2
85°	14.8	16.3	17.8	19.3	20.7
87.5°	8.9	8.9	10.4	11.9	13.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)