

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: P561062

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-93-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561062
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-93-87-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1977.0 lumens
Efficiency: N/A
Efficacy: 84.5 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

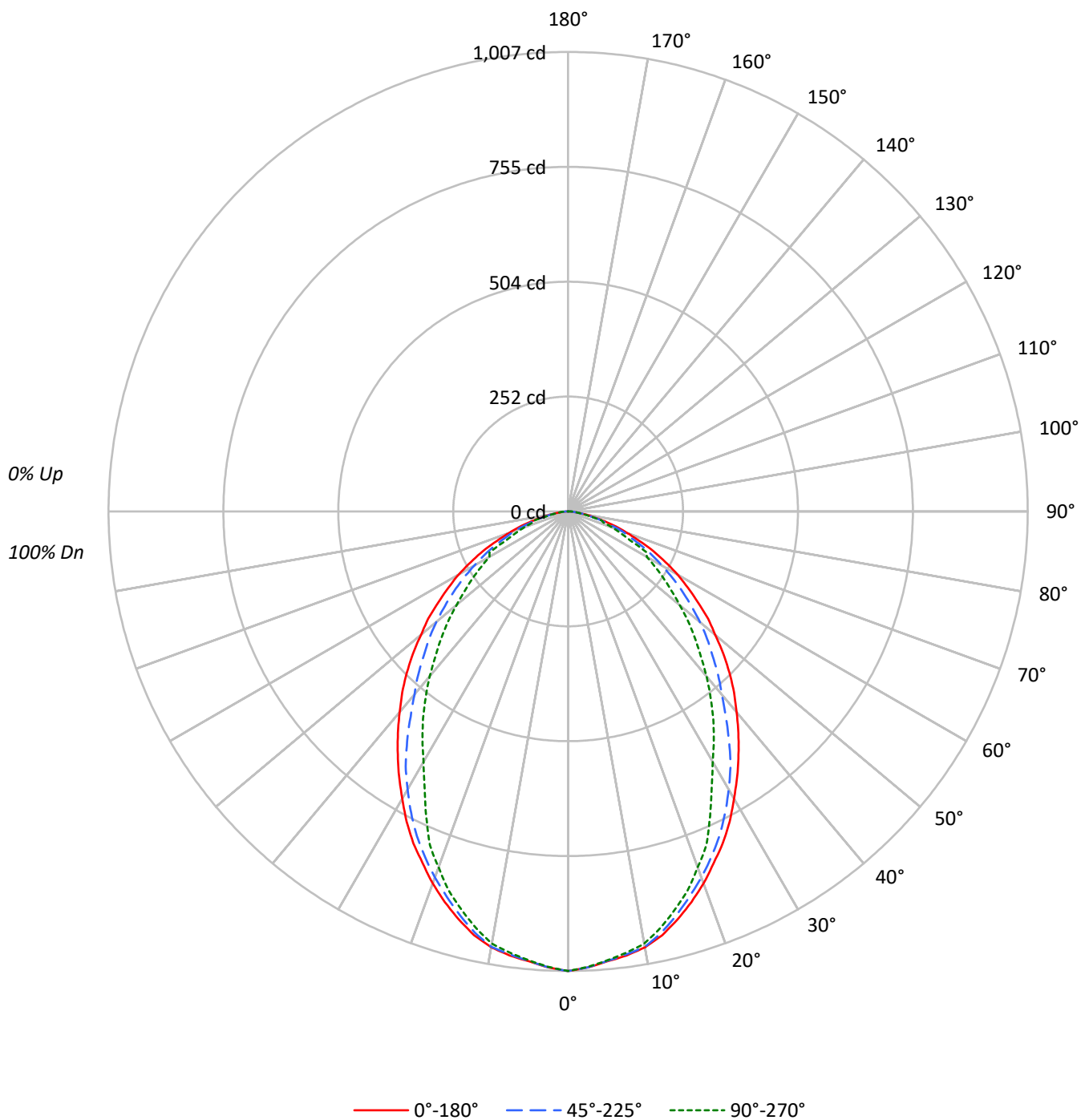
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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			
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°	2710	2710	2710
5°	2673	2670	2667
10°	2650	2647	2628
15°	2579	2552	2517
20°	2484	2444	2377
25°	2382	2330	2185
30°	2257	2185	1968
35°	2138	2019	1821
40°	2016	1840	1656
45°	1901	1701	1498
50°	1760	1579	1335
55°	1628	1431	1196
60°	1491	1278	1072
65°	1312	1119	949
70°	1081	980	806
75°	860	751	787
80°	578	541	505
85°	358	432	503

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1901 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.7	4.7
10°-20°	257.3	13.0
20°-30°	356.2	18.0
30°-40°	379.8	19.2
40°-50°	346.5	17.5
50°-60°	271.4	13.7
60°-70°	176.9	8.9
70°-80°	78.4	4.0
80°-90°	16.8	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°	707.2	35.8
0°-40°	1087.0	55.0
0°-60°	1704.9	86.2
0°-90°	1977.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1977.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1007	1007	1007	1007	1007	
5°	990	988	988	987	987	94
15°	926	926	916	907	903	260
25°	802	798	785	757	736	368
35°	651	646	615	568	554	407
45°	500	489	447	410	394	385
55°	347	336	305	269	255	311
65°	206	194	176	179	149	203
75°	83	77	72	69	76	89
85°	12	13	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°	1007.1	1007.1	1007.1	1007.1	1007.1
2.5°	1000.1	1000.1	1000.1	998.9	998.9
5°	989.6	988.4	988.4	987.3	987.3
7.5°	981.4	980.3	979.1	978.0	975.6
10°	969.8	969.8	968.6	962.8	961.7
12.5°	951.2	950.0	945.4	937.2	934.9
15°	925.6	925.6	916.2	906.9	903.4
17.5°	897.6	896.5	884.8	875.5	870.8
20°	867.4	865.0	853.4	838.2	830.1
22.5°	833.6	833.6	819.6	799.8	791.7
25°	802.2	797.5	784.7	756.7	735.8
27.5°	766.1	759.1	745.1	705.5	681.1
30°	726.5	723.0	703.2	652.0	633.3
32.5°	689.2	683.4	662.4	608.9	593.8
35°	650.8	646.1	614.7	568.1	554.2
37.5°	612.4	606.6	567.0	529.7	512.3
40°	574.0	567.0	523.9	490.1	471.5
42.5°	537.9	528.6	486.6	450.6	429.6
45°	499.5	489.0	447.1	409.8	393.5
47.5°	461.0	451.7	413.3	374.9	356.3
50°	420.3	412.1	377.2	338.8	319.0
52.5°	386.5	373.7	340.0	301.5	285.2
55°	346.9	336.5	305.0	268.9	255.0
57.5°	310.8	300.4	271.3	237.5	225.9
60°	277.1	262.0	237.5	208.4	199.1
62.5°	239.8	228.2	207.2	182.8	194.4
65°	206.1	194.4	175.8	179.3	149.0
67.5°	168.8	163.0	146.7	130.4	125.7
70°	137.4	130.4	124.6	107.1	102.5
72.5°	109.4	102.5	94.3	85.0	81.5
75°	82.7	76.8	72.2	68.7	75.7
77.5°	57.0	54.7	51.2	47.7	46.6
80°	37.3	36.1	34.9	33.8	32.6
82.5°	22.1	22.1	22.1	22.1	22.1
85°	11.6	12.8	14.0	15.1	16.3
87.5°	7.0	7.0	8.1	9.3	10.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)