

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: P561061

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561061
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-93-86-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2432.0 lumens
Efficiency: N/A
Efficacy: 103.9 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

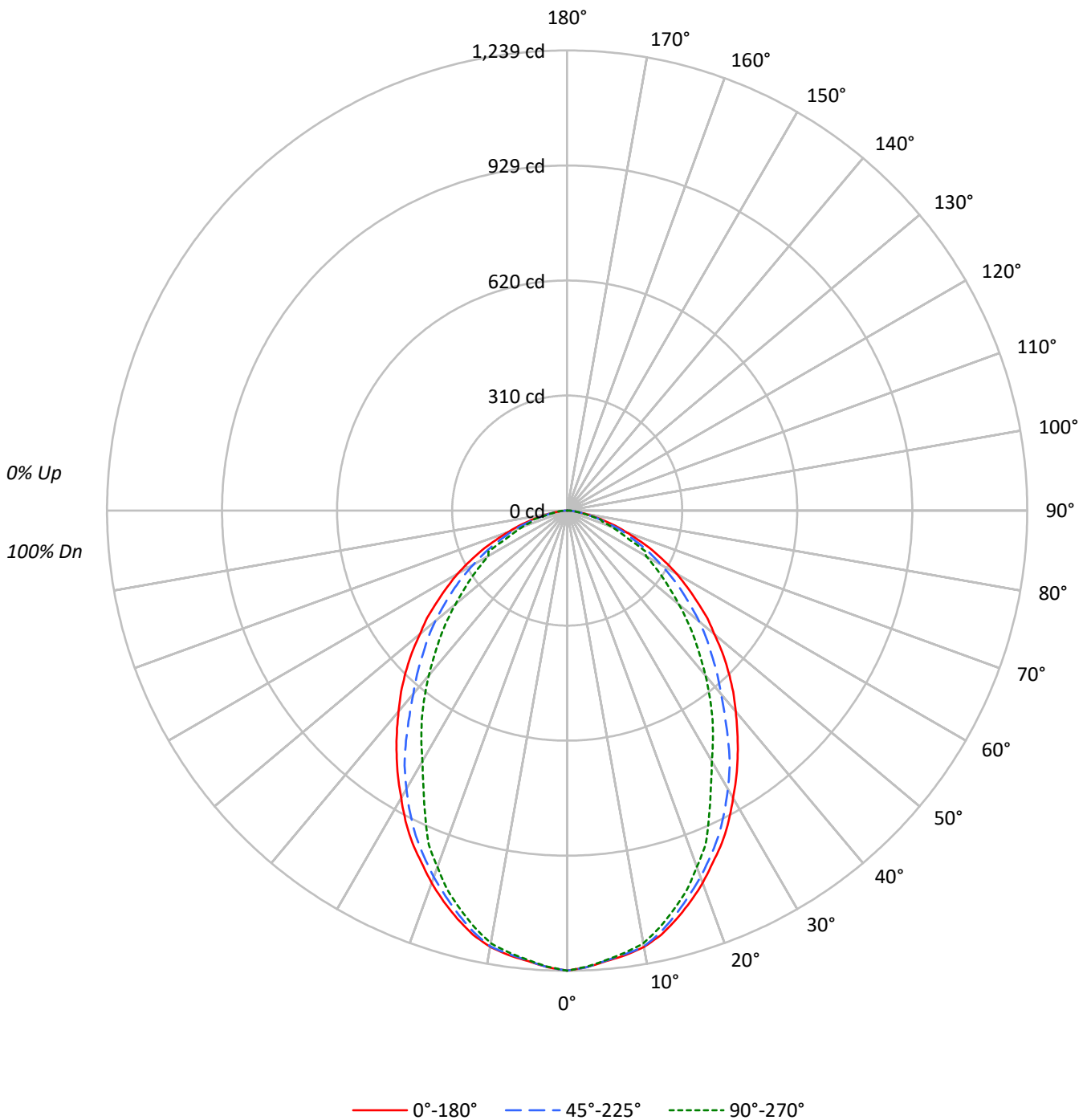
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3334	3334	3334
5°	3288	3284	3281
10°	3260	3256	3233
15°	3172	3140	3096
20°	3056	3006	2924
25°	2930	2866	2687
30°	2777	2688	2421
35°	2630	2484	2239
40°	2480	2264	2037
45°	2338	2093	1842
50°	2164	1942	1643
55°	2002	1760	1471
60°	1835	1573	1318
65°	1614	1377	1167
70°	1330	1205	991
75°	1057	923	968
80°	710	666	621
85°	442	531	621

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2338 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.3	4.7
10°-20°	316.5	13.0
20°-30°	438.1	18.0
30°-40°	467.2	19.2
40°-50°	426.2	17.5
50°-60°	333.9	13.7
60°-70°	217.6	8.9
70°-80°	96.4	4.0
80°-90°	20.7	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°	869.9	35.8
0°-40°	1337.1	55.0
0°-60°	2097.3	86.2
0°-90°	2432.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2432.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1239	1239	1239	1239	1239	
5°	1217	1216	1216	1214	1214	116
15°	1139	1139	1127	1116	1111	320
25°	987	981	965	931	905	453
35°	801	795	756	699	682	501
45°	614	602	550	504	484	473
55°	427	414	375	331	314	383
65°	254	239	216	221	183	250
75°	102	94	89	84	93	109
85°	14	16	17	19	20	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1238.8	1238.8	1238.8	1238.8	1238.8
2.5°	1230.2	1230.2	1230.2	1228.8	1228.8
5°	1217.3	1215.9	1215.9	1214.5	1214.5
7.5°	1207.3	1205.9	1204.5	1203.0	1200.2
10°	1193.0	1193.0	1191.6	1184.4	1183.0
12.5°	1170.1	1168.7	1162.9	1152.9	1150.0
15°	1138.6	1138.6	1127.1	1115.7	1111.4
17.5°	1104.2	1102.8	1088.5	1077.0	1071.3
20°	1067.0	1064.1	1049.8	1031.2	1021.1
22.5°	1025.4	1025.4	1008.2	983.9	973.9
25°	986.8	981.0	965.3	930.9	905.1
27.5°	942.4	933.8	916.6	867.9	837.8
30°	893.7	889.4	865.0	802.0	779.1
32.5°	847.8	840.7	814.9	749.0	730.4
35°	800.6	794.9	756.2	698.9	681.7
37.5°	753.3	746.2	697.5	651.6	630.2
40°	706.1	697.5	644.5	602.9	580.0
42.5°	661.7	650.2	598.6	554.3	528.5
45°	614.4	601.5	550.0	504.1	484.1
47.5°	567.1	555.7	508.4	461.2	438.2
50°	517.0	507.0	464.0	416.8	392.4
52.5°	475.5	459.7	418.2	370.9	350.9
55°	426.8	413.9	375.2	330.8	313.6
57.5°	382.4	369.5	333.7	292.2	277.8
60°	340.9	322.2	292.2	256.4	244.9
62.5°	295.0	280.7	254.9	224.9	239.2
65°	253.5	239.2	216.3	220.6	183.3
67.5°	207.7	200.5	180.5	160.4	154.7
70°	169.0	160.4	153.2	131.8	126.0
72.5°	134.6	126.0	116.0	104.5	100.3
75°	101.7	94.5	88.8	84.5	93.1
77.5°	70.2	67.3	63.0	58.7	57.3
80°	45.8	44.4	43.0	41.5	40.1
82.5°	27.2	27.2	27.2	27.2	27.2
85°	14.3	15.8	17.2	18.6	20.1
87.5°	8.6	8.6	10.0	11.5	12.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)