

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: P561021

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-80-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561021
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-80-96-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

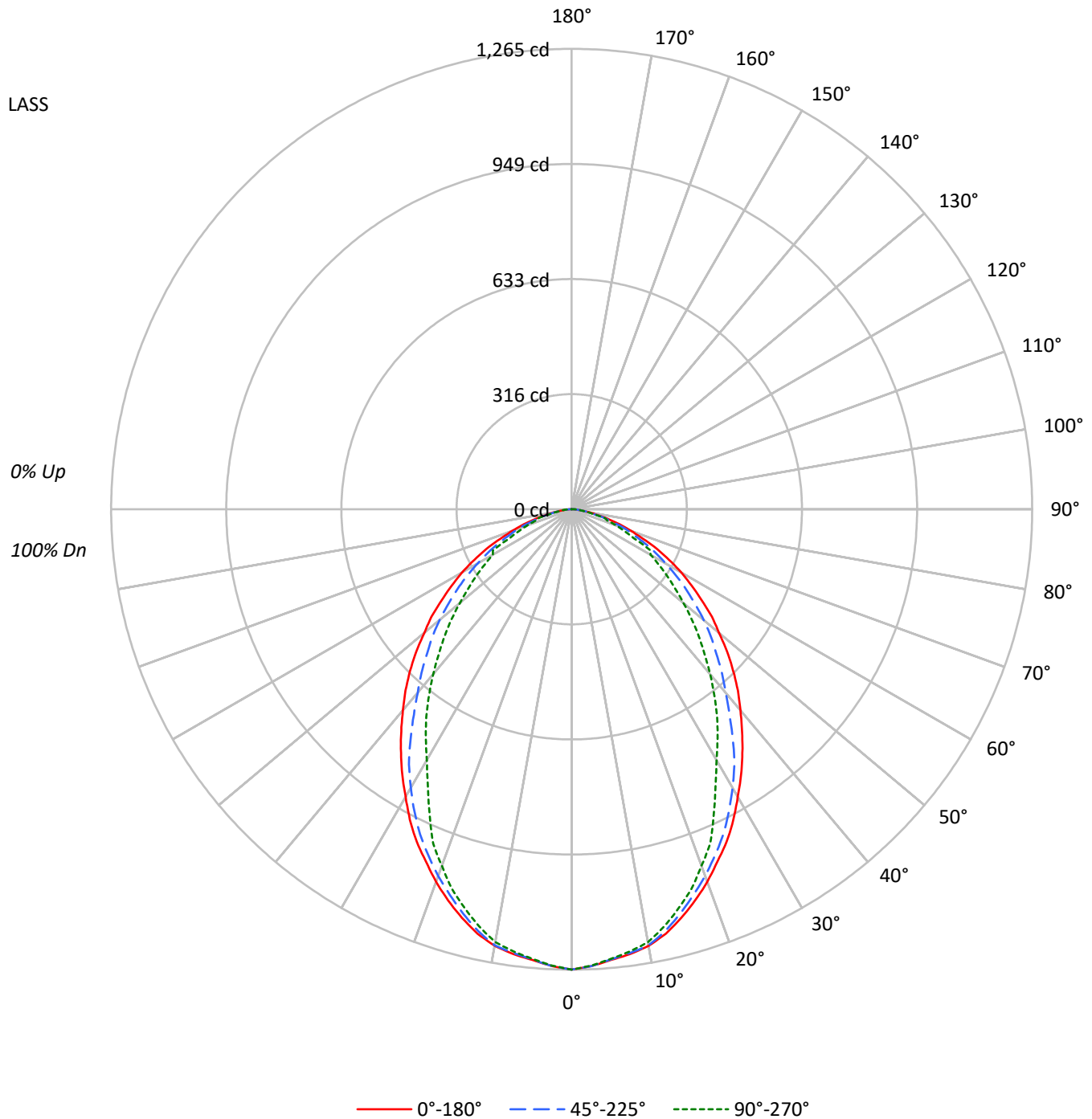
Lumens per Lamp: N/A
Luminaire Lumens: 2483.0 lumens
Efficiency: N/A
Efficacy: 106.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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																												
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°	3404	3404	3404
5°	3357	3353	3349
10°	3328	3324	3300
15°	3239	3206	3161
20°	3119	3069	2986
25°	2991	2926	2744
30°	2835	2744	2472
35°	2685	2536	2286
40°	2532	2311	2080
45°	2387	2137	1881
50°	2210	1984	1677
55°	2044	1797	1502
60°	1873	1605	1345
65°	1648	1406	1192
70°	1357	1231	1013
75°	1079	943	988
80°	725	680	634
85°	451	540	633

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2387 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.7	4.7
10°-20°	323.1	13.0
20°-30°	447.3	18.0
30°-40°	477.0	19.2
40°-50°	435.1	17.5
50°-60°	340.9	13.7
60°-70°	222.2	8.9
70°-80°	98.4	4.0
80°-90°	21.1	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°	888.2	35.8
0°-40°	1365.2	55.0
0°-60°	2141.2	86.2
0°-90°	2483.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2483.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1265	1265	1265	1265	1265	
5°	1243	1241	1241	1240	1240	118
15°	1162	1162	1151	1139	1135	327
25°	1008	1002	986	950	924	463
35°	817	812	772	714	696	511
45°	627	614	562	515	494	483
55°	436	423	383	338	320	391
65°	259	244	221	225	187	255
75°	104	96	91	86	95	111
85°	15	16	18	19	20	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1264.8	1264.8	1264.8	1264.8	1264.8
2.5°	1256.0	1256.0	1256.0	1254.6	1254.6
5°	1242.9	1241.4	1241.4	1239.9	1239.9
7.5°	1232.6	1231.2	1229.7	1228.3	1225.3
10°	1218.0	1218.0	1216.6	1209.2	1207.8
12.5°	1194.6	1193.2	1187.3	1177.1	1174.2
15°	1162.5	1162.5	1150.8	1139.1	1134.7
17.5°	1127.4	1125.9	1111.3	1099.6	1093.7
20°	1089.3	1086.4	1071.8	1052.8	1042.6
22.5°	1046.9	1046.9	1029.4	1004.5	994.3
25°	1007.5	1001.6	985.5	950.4	924.1
27.5°	962.1	953.4	935.8	886.1	855.4
30°	912.4	908.0	883.2	818.8	795.4
32.5°	865.6	858.3	832.0	764.7	745.7
35°	817.4	811.5	772.0	713.6	696.0
37.5°	769.1	761.8	712.1	665.3	643.4
40°	720.9	712.1	658.0	615.6	592.2
42.5°	675.5	663.8	611.2	565.9	539.6
45°	627.3	614.1	561.5	514.7	494.2
47.5°	579.0	567.3	519.1	470.8	447.4
50°	527.9	517.6	473.8	425.5	400.6
52.5°	485.5	469.4	427.0	378.7	358.2
55°	435.7	422.6	383.1	337.8	320.2
57.5°	390.4	377.2	340.7	298.3	283.7
60°	348.0	329.0	298.3	261.7	250.0
62.5°	301.2	286.6	260.3	229.6	244.2
65°	258.8	244.2	220.8	225.2	187.2
67.5°	212.0	204.7	184.2	163.8	157.9
70°	172.5	163.8	156.5	134.5	128.7
72.5°	137.4	128.7	118.4	106.7	102.4
75°	103.8	96.5	90.7	86.3	95.0
77.5°	71.6	68.7	64.3	60.0	58.5
80°	46.8	45.3	43.9	42.4	40.9
82.5°	27.8	27.8	27.8	27.8	27.8
85°	14.6	16.1	17.5	19.0	20.5
87.5°	8.8	8.8	10.2	11.7	13.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)