

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: P561003

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561003
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-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2491.0 lumens
Efficiency: N/A
Efficacy: 106.5 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

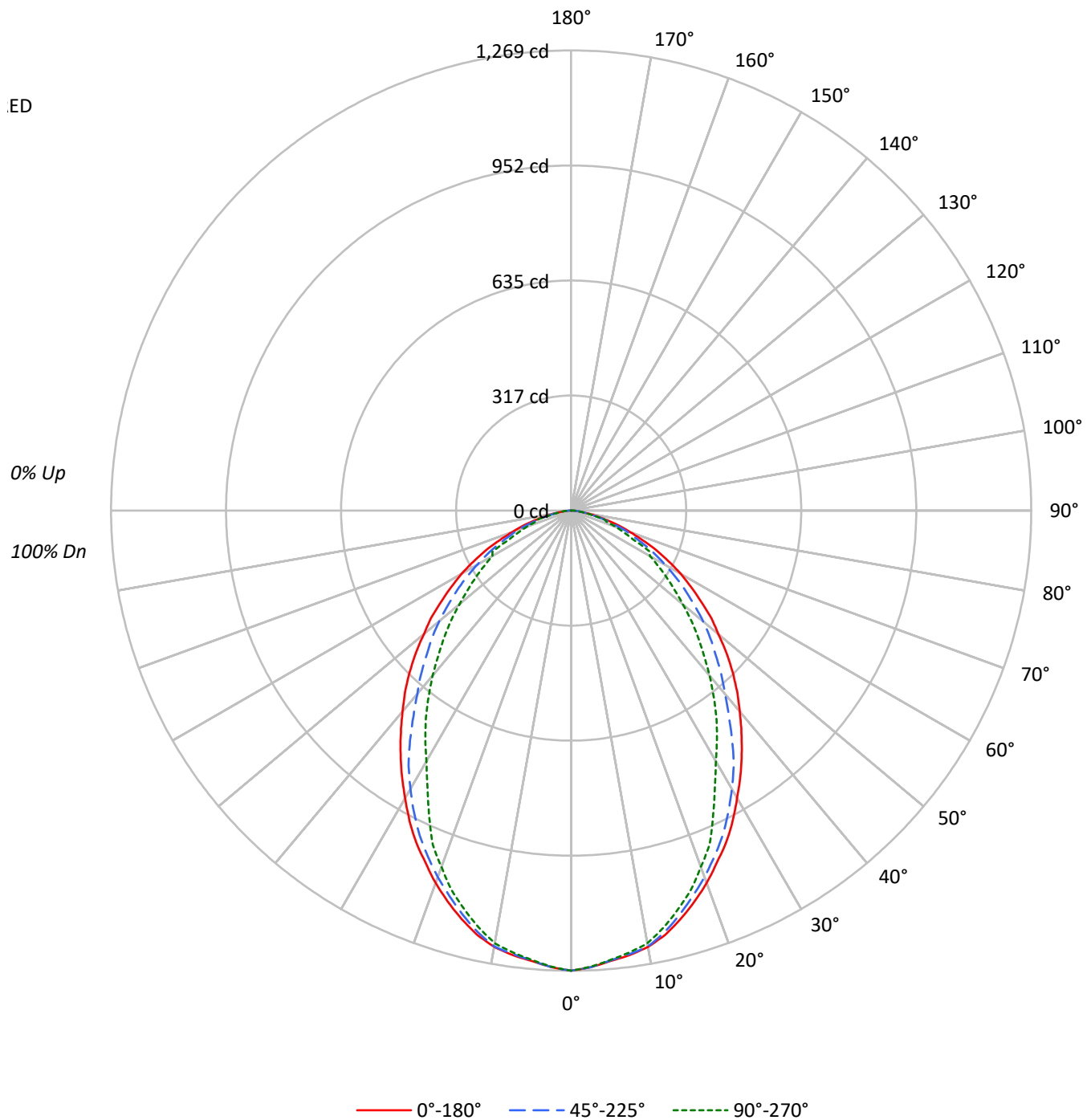
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3415	3415	3415
5°	3368	3364	3360
10°	3339	3335	3311
15°	3249	3216	3171
20°	3130	3079	2995
25°	3001	2936	2753
30°	2844	2753	2480
35°	2694	2544	2294
40°	2540	2319	2087
45°	2395	2144	1887
50°	2217	1990	1683
55°	2051	1803	1507
60°	1879	1611	1350
65°	1653	1410	1196
70°	1362	1235	1016
75°	1083	945	991
80°	727	682	637
85°	454	543	633

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2395 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.1	4.7
10°-20°	324.2	13.0
20°-30°	448.8	18.0
30°-40°	478.5	19.2
40°-50°	436.6	17.5
50°-60°	342.0	13.7
60°-70°	222.9	8.9
70°-80°	98.7	4.0
80°-90°	21.2	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°	891.0	35.8
0°-40°	1369.6	55.0
0°-60°	2148.2	86.2
0°-90°	2491.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2491.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1269	1269	1269	1269	1269	
5°	1247	1245	1245	1244	1244	118
15°	1166	1166	1154	1143	1138	328
25°	1011	1005	989	954	927	464
35°	820	814	774	716	698	513
45°	629	616	563	516	496	485
55°	437	424	384	339	321	392
65°	260	245	222	226	188	256
75°	104	97	91	86	95	112
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°	1268.9	1268.9	1268.9	1268.9	1268.9
2.5°	1260.1	1260.1	1260.1	1258.6	1258.6
5°	1246.9	1245.4	1245.4	1243.9	1243.9
7.5°	1236.6	1235.1	1233.7	1232.2	1229.3
10°	1221.9	1221.9	1220.5	1213.1	1211.7
12.5°	1198.5	1197.0	1191.1	1180.9	1177.9
15°	1166.2	1166.2	1154.5	1142.7	1138.3
17.5°	1131.0	1129.5	1114.9	1103.1	1097.3
20°	1092.9	1089.9	1075.2	1056.2	1045.9
22.5°	1050.3	1050.3	1032.7	1007.8	997.5
25°	1010.7	1004.8	988.7	953.5	927.1
27.5°	965.2	956.4	938.8	889.0	858.1
30°	915.4	911.0	886.0	821.5	798.0
32.5°	868.4	861.1	834.7	767.2	748.1
35°	820.0	814.1	774.5	715.9	698.3
37.5°	771.6	764.3	714.4	667.4	645.4
40°	723.2	714.4	660.1	617.6	594.1
42.5°	677.7	666.0	613.2	567.7	541.3
45°	629.3	616.1	563.3	516.4	495.8
47.5°	580.9	569.2	520.8	472.3	448.9
50°	529.6	519.3	475.3	426.9	401.9
52.5°	487.0	470.9	428.3	379.9	359.4
55°	437.1	423.9	384.3	338.9	321.3
57.5°	391.7	378.5	341.8	299.3	284.6
60°	349.1	330.1	299.3	262.6	250.8
62.5°	302.2	287.5	261.1	230.3	245.0
65°	259.6	245.0	221.5	225.9	187.8
67.5°	212.7	205.4	184.8	164.3	158.4
70°	173.1	164.3	157.0	135.0	129.1
72.5°	137.9	129.1	118.8	107.1	102.7
75°	104.2	96.8	90.9	86.5	95.3
77.5°	71.9	68.9	64.5	60.1	58.7
80°	46.9	45.5	44.0	42.5	41.1
82.5°	27.9	27.9	27.9	27.9	27.9
85°	14.7	16.1	17.6	19.1	20.5
87.5°	8.8	8.8	10.3	11.7	13.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)