

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: P560104

Luminaire Tested: FSR-12-2-LD4-1STD-40-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560104
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-12-2-LD4-1STD-40-UNV-93-88-EDD-90
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1095.0 lumens
Efficiency: N/A
Efficacy: 66.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

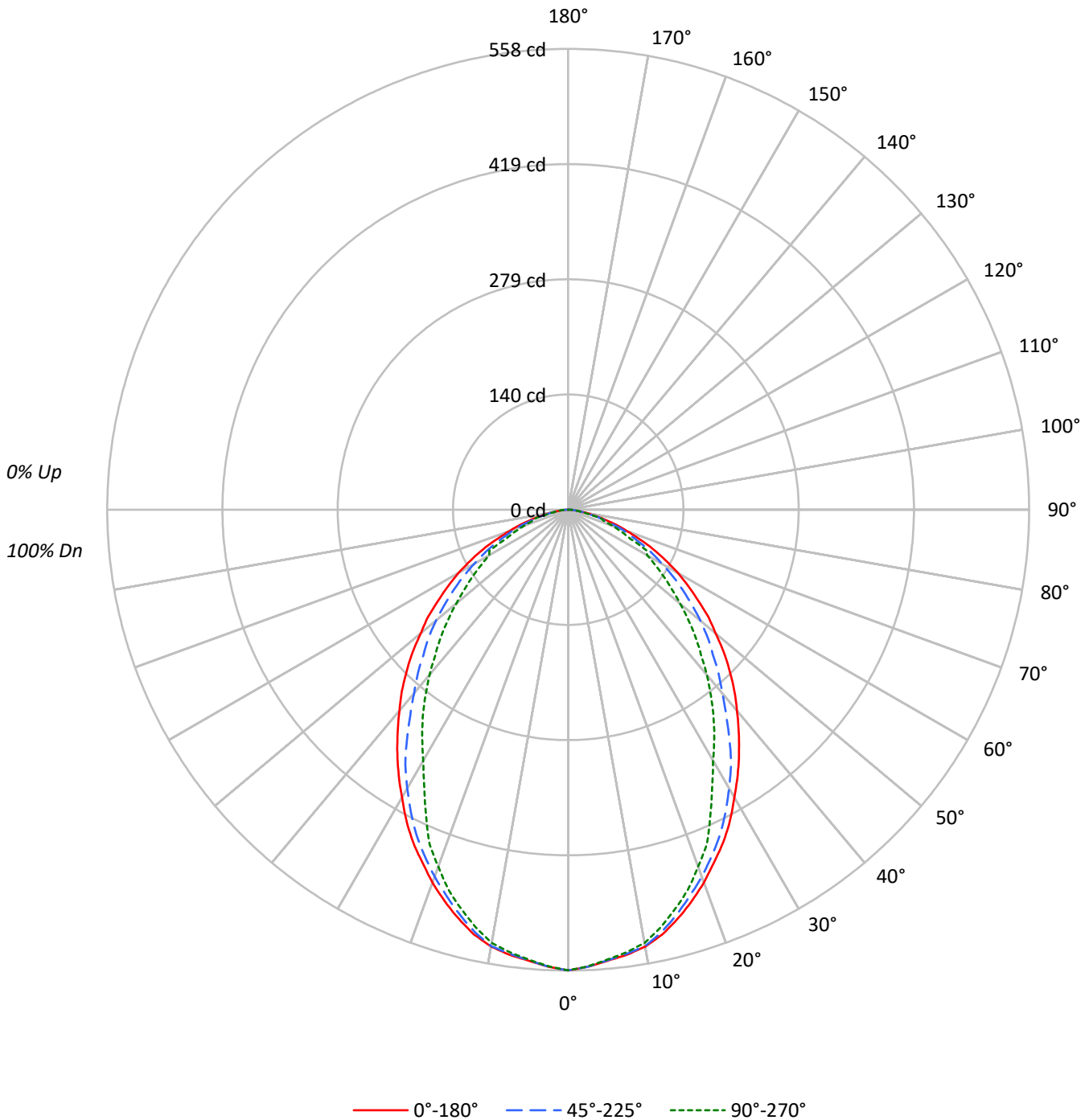
Input Watts (W): 16.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3002	3002	3002
5°	2961	2958	2954
10°	2935	2932	2911
15°	2856	2828	2788
20°	2751	2707	2633
25°	2638	2581	2420
30°	2501	2421	2180
35°	2369	2237	2016
40°	2233	2039	1835
45°	2105	1885	1659
50°	1949	1749	1479
55°	1803	1585	1325
60°	1652	1415	1187
65°	1453	1240	1051
70°	1197	1086	892
75°	952	832	871
80°	638	598	561
85°	395	475	556

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2105 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.9	4.7
10°-20°	142.5	13.0
20°-30°	197.3	18.0
30°-40°	210.4	19.2
40°-50°	191.9	17.5
50°-60°	150.3	13.7
60°-70°	98.0	8.9
70°-80°	43.4	4.0
80°-90°	9.3	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°	391.7	35.8
0°-40°	602.0	55.0
0°-60°	944.3	86.2
0°-90°	1095.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1095.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	558	558	558	558	558	
5°	548	548	548	547	547	52
15°	513	513	508	502	500	144
25°	444	442	435	419	408	204
35°	360	358	340	315	307	225
45°	277	271	248	227	218	213
55°	192	186	169	149	141	172
65°	114	108	97	99	82	112
75°	46	43	40	38	42	49
85°	6	7	8	8	9	9
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	557.8	557.8	557.8	557.8	557.8
2.5°	553.9	553.9	553.9	553.3	553.3
5°	548.1	547.5	547.5	546.8	546.8
7.5°	543.6	542.9	542.3	541.7	540.4
10°	537.1	537.1	536.5	533.3	532.6
12.5°	526.8	526.2	523.6	519.1	517.8
15°	512.6	512.6	507.5	502.3	500.4
17.5°	497.2	496.5	490.1	484.9	482.3
20°	480.4	479.1	472.7	464.3	459.8
22.5°	461.7	461.7	454.0	443.0	438.5
25°	444.3	441.7	434.6	419.1	407.5
27.5°	424.3	420.4	412.7	390.8	377.2
30°	402.4	400.4	389.5	361.1	350.8
32.5°	381.7	378.5	366.9	337.2	328.9
35°	360.5	357.9	340.5	314.7	306.9
37.5°	339.2	336.0	314.0	293.4	283.7
40°	317.9	314.0	290.2	271.5	261.2
42.5°	297.9	292.8	269.5	249.5	237.9
45°	276.6	270.8	247.6	227.0	218.0
47.5°	255.4	250.2	228.9	207.6	197.3
50°	232.8	228.3	208.9	187.6	176.7
52.5°	214.1	207.0	188.3	167.0	158.0
55°	192.2	186.4	168.9	149.0	141.2
57.5°	172.2	166.4	150.2	131.5	125.1
60°	153.5	145.1	131.5	115.4	110.3
62.5°	132.8	126.4	114.8	101.2	107.7
65°	114.1	107.7	97.4	99.3	82.5
67.5°	93.5	90.3	81.2	72.2	69.6
70°	76.1	72.2	69.0	59.3	56.7
72.5°	60.6	56.7	52.2	47.1	45.1
75°	45.8	42.6	40.0	38.0	41.9
77.5°	31.6	30.3	28.4	26.4	25.8
80°	20.6	20.0	19.3	18.7	18.1
82.5°	12.3	12.3	12.3	12.3	12.3
85°	6.4	7.1	7.7	8.4	9.0
87.5°	3.9	3.9	4.5	5.2	5.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)