

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: P563497

Luminaire Tested: FSR-24-4-LD4-3STD-35-UNV-93-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563497
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-24-4-LD4-3STD-35-UNV-93-88-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9905.0 lumens
Efficiency: N/A
Efficacy: 99.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

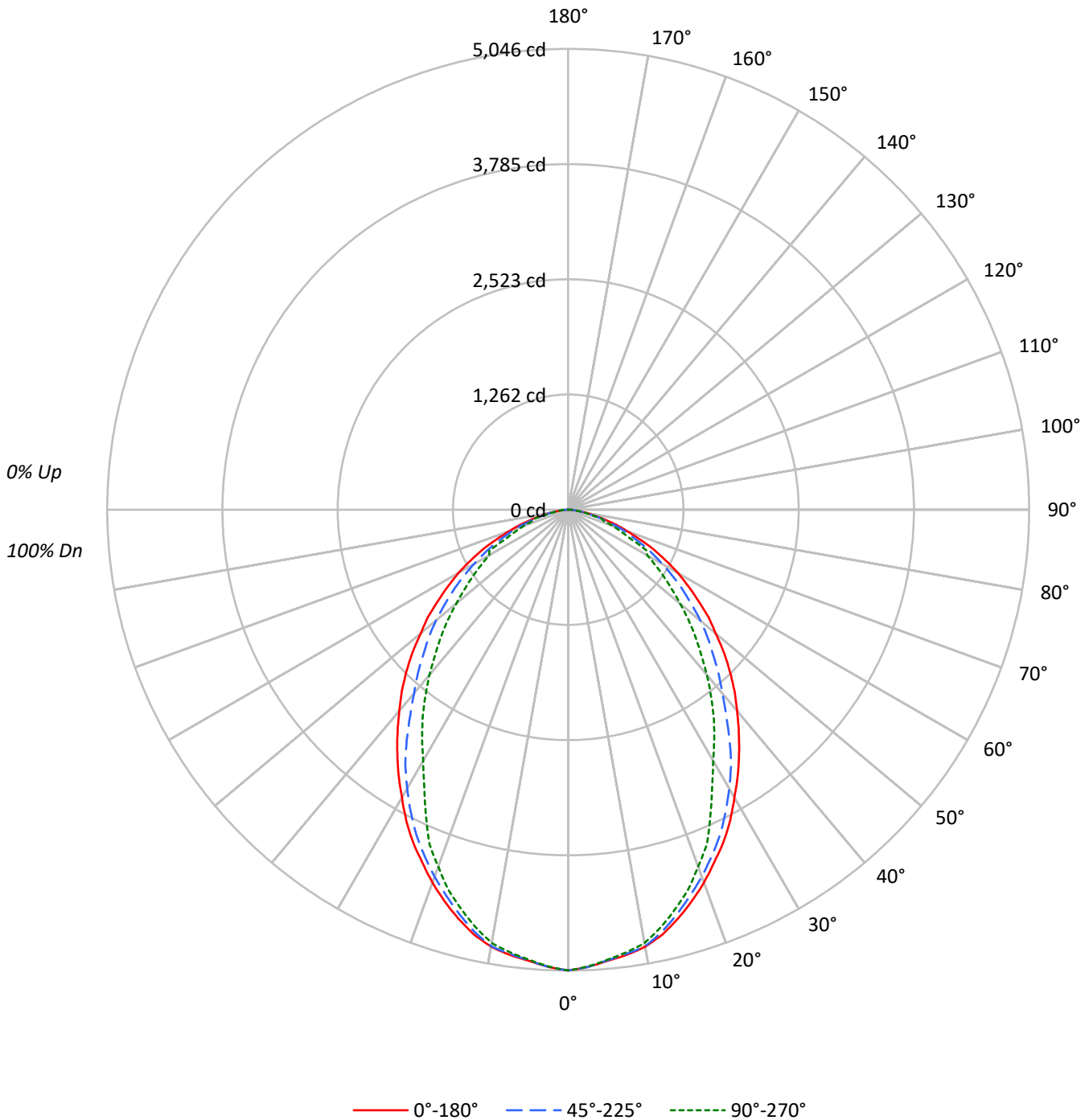
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6789	6789	6789
5°	6696	6688	6681
10°	6638	6630	6583
15°	6459	6394	6305
20°	6222	6122	5955
25°	5966	5836	5473
30°	5655	5474	4930
35°	5356	5059	4561
40°	5051	4610	4149
45°	4761	4262	3751
50°	4408	3956	3345
55°	4077	3585	2997
60°	3736	3202	2684
65°	3287	2804	2377
70°	2708	2455	2019
75°	2153	1880	1971
80°	1447	1356	1265
85°	900	1081	1261

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4761 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	469.7	4.7
10°-20°	1289.0	13.0
20°-30°	1784.5	18.0
30°-40°	1902.8	19.2
40°-50°	1735.9	17.5
50°-60°	1359.9	13.7
60°-70°	886.3	8.9
70°-80°	392.7	4.0
80°-90°	84.3	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°	3543.1	35.8
0°-40°	5445.9	55.0
0°-60°	8541.7	86.2
0°-90°	9905.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9905.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5046	5046	5046	5046	5046	
5°	4958	4952	4952	4946	4946	471
15°	4637	4637	4590	4544	4526	1304
25°	4019	3996	3931	3791	3686	1845
35°	3261	3237	3080	2846	2776	2038
45°	2502	2450	2240	2053	1972	1928
55°	1738	1686	1528	1347	1277	1559
65°	1032	974	881	898	747	1017
75°	414	385	362	344	379	444
85°	58	64	70	76	82	81
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5045.5	5045.5	5045.5	5045.5	5045.5
2.5°	5010.5	5010.5	5010.5	5004.6	5004.6
5°	4958.0	4952.1	4952.1	4946.3	4946.3
7.5°	4917.2	4911.3	4905.5	4899.7	4888.0
10°	4858.8	4858.8	4853.0	4823.8	4818.0
12.5°	4765.5	4759.7	4736.3	4695.5	4683.8
15°	4637.2	4637.2	4590.5	4543.8	4526.3
17.5°	4497.2	4491.3	4433.0	4386.4	4363.0
20°	4345.5	4333.9	4275.5	4199.7	4158.9
22.5°	4176.4	4176.4	4106.4	4007.2	3966.4
25°	4018.9	3995.5	3931.4	3791.4	3686.4
27.5°	3838.1	3803.1	3733.1	3534.7	3412.3
30°	3639.7	3622.2	3523.1	3266.4	3173.1
32.5°	3453.1	3423.9	3318.9	3050.6	2974.8
35°	3260.6	3237.3	3079.8	2846.5	2776.5
37.5°	3068.1	3039.0	2840.6	2654.0	2566.5
40°	2875.6	2840.6	2624.8	2455.7	2362.3
42.5°	2694.8	2648.1	2438.2	2257.3	2152.3
45°	2502.3	2449.8	2239.8	2053.2	1971.5
47.5°	2309.8	2263.2	2070.7	1878.2	1784.9
50°	2105.7	2064.9	1889.9	1697.4	1598.2
52.5°	1936.5	1872.4	1703.2	1510.7	1429.1
55°	1738.2	1685.7	1528.2	1347.4	1277.4
57.5°	1557.4	1504.9	1359.1	1189.9	1131.6
60°	1388.2	1312.4	1189.9	1044.1	997.4
62.5°	1201.6	1143.3	1038.3	915.8	974.1
65°	1032.4	974.1	880.8	898.3	746.6
67.5°	845.8	816.6	734.9	653.3	630.0
70°	688.3	653.3	624.1	536.6	513.3
72.5°	548.3	513.3	472.5	425.8	408.3
75°	414.1	385.0	361.6	344.1	379.1
77.5°	285.8	274.1	256.6	239.1	233.3
80°	186.7	180.8	175.0	169.2	163.3
82.5°	110.8	110.8	110.8	110.8	110.8
85°	58.3	64.2	70.0	75.8	81.7
87.5°	35.0	35.0	40.8	46.7	52.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)