

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: P563495

Luminaire Tested: FSR-24-4-LD4-3STD-35-UNV-93-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563495
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-93-87-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10999.0 lumens
Efficiency: N/A
Efficacy: 110.1 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

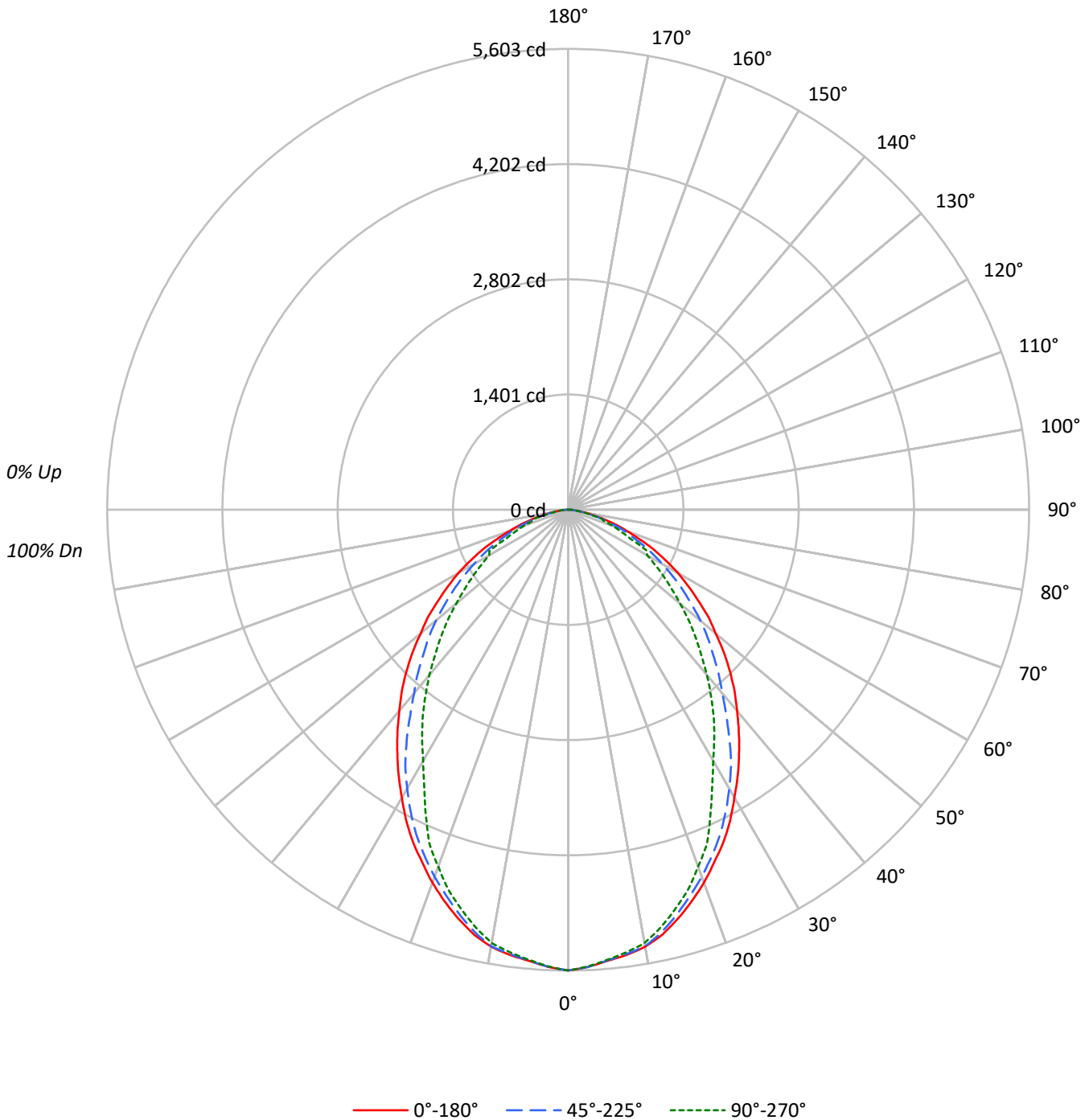
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7538	7538	7538
5°	7436	7427	7418
10°	7372	7363	7310
15°	7173	7101	7001
20°	6909	6798	6613
25°	6625	6481	6077
30°	6279	6078	5474
35°	5947	5617	5064
40°	5609	5119	4607
45°	5287	4733	4166
50°	4895	4393	3715
55°	4528	3981	3328
60°	4148	3556	2981
65°	3650	3114	2640
70°	3007	2727	2242
75°	2391	2088	2189
80°	1606	1506	1406
85°	1000	1200	1400

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5287 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	521.5	4.7
10°-20°	1431.3	13.0
20°-30°	1981.6	18.0
30°-40°	2112.9	19.2
40°-50°	1927.6	17.5
50°-60°	1510.1	13.7
60°-70°	984.2	8.9
70°-80°	436.1	4.0
80°-90°	93.6	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°	3934.4	35.8
0°-40°	6047.4	55.0
0°-60°	9485.1	86.2
0°-90°	10999.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10999.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5603	5603	5603	5603	5603	
5°	5506	5499	5499	5493	5493	523
15°	5149	5149	5098	5046	5026	1448
25°	4463	4437	4366	4210	4094	2049
35°	3621	3595	3420	3161	3083	2264
45°	2779	2720	2487	2280	2189	2140
55°	1930	1872	1697	1496	1418	1731
65°	1146	1082	978	998	829	1130
75°	460	428	402	382	421	493
85°	65	71	78	84	91	90
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5602.7	5602.7	5602.7	5602.7	5602.7
2.5°	5563.9	5563.9	5563.9	5557.4	5557.4
5°	5505.6	5499.1	5499.1	5492.6	5492.6
7.5°	5460.2	5453.8	5447.3	5440.8	5427.9
10°	5395.5	5395.5	5389.0	5356.6	5350.1
12.5°	5291.8	5285.4	5259.5	5214.1	5201.2
15°	5149.3	5149.3	5097.5	5045.7	5026.3
17.5°	4993.9	4987.4	4922.6	4870.8	4844.9
20°	4825.5	4812.5	4747.8	4663.6	4618.2
22.5°	4637.6	4637.6	4559.9	4449.8	4404.5
25°	4462.8	4436.9	4365.6	4210.2	4093.6
27.5°	4262.0	4223.1	4145.4	3925.2	3789.1
30°	4041.7	4022.3	3912.2	3627.2	3523.6
32.5°	3834.5	3802.1	3685.5	3387.6	3303.4
35°	3620.7	3594.8	3419.9	3160.9	3083.1
37.5°	3407.0	3374.6	3154.4	2947.1	2850.0
40°	3193.2	3154.4	2914.7	2726.9	2623.2
42.5°	2992.4	2940.6	2707.5	2506.7	2390.1
45°	2778.7	2720.4	2487.2	2280.0	2189.3
47.5°	2565.0	2513.1	2299.4	2085.6	1982.0
50°	2338.3	2292.9	2098.6	1884.9	1774.7
52.5°	2150.4	2079.2	1891.3	1677.6	1586.9
55°	1930.2	1871.9	1697.0	1496.2	1418.5
57.5°	1729.4	1671.1	1509.2	1321.3	1256.6
60°	1541.6	1457.4	1321.3	1159.4	1107.6
62.5°	1334.3	1269.5	1152.9	1016.9	1081.7
65°	1146.5	1081.7	978.1	997.5	829.1
67.5°	939.2	906.8	816.1	725.4	699.5
70°	764.3	725.4	693.1	595.9	570.0
72.5°	608.9	570.0	524.6	472.8	453.4
75°	459.9	427.5	401.6	382.2	421.0
77.5°	317.4	304.4	285.0	265.6	259.1
80°	207.3	200.8	194.3	187.8	181.4
82.5°	123.1	123.1	123.1	123.1	123.1
85°	64.8	71.2	77.7	84.2	90.7
87.5°	38.9	38.9	45.3	51.8	58.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)