

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: P563878

Luminaire Tested: FSR-24-4-LD4-4LO-35-UNV-93-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563878
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-LD4-4LO-35-UNV-93-87-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9163.0 lumens
Efficiency: N/A
Efficacy: 97.9 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

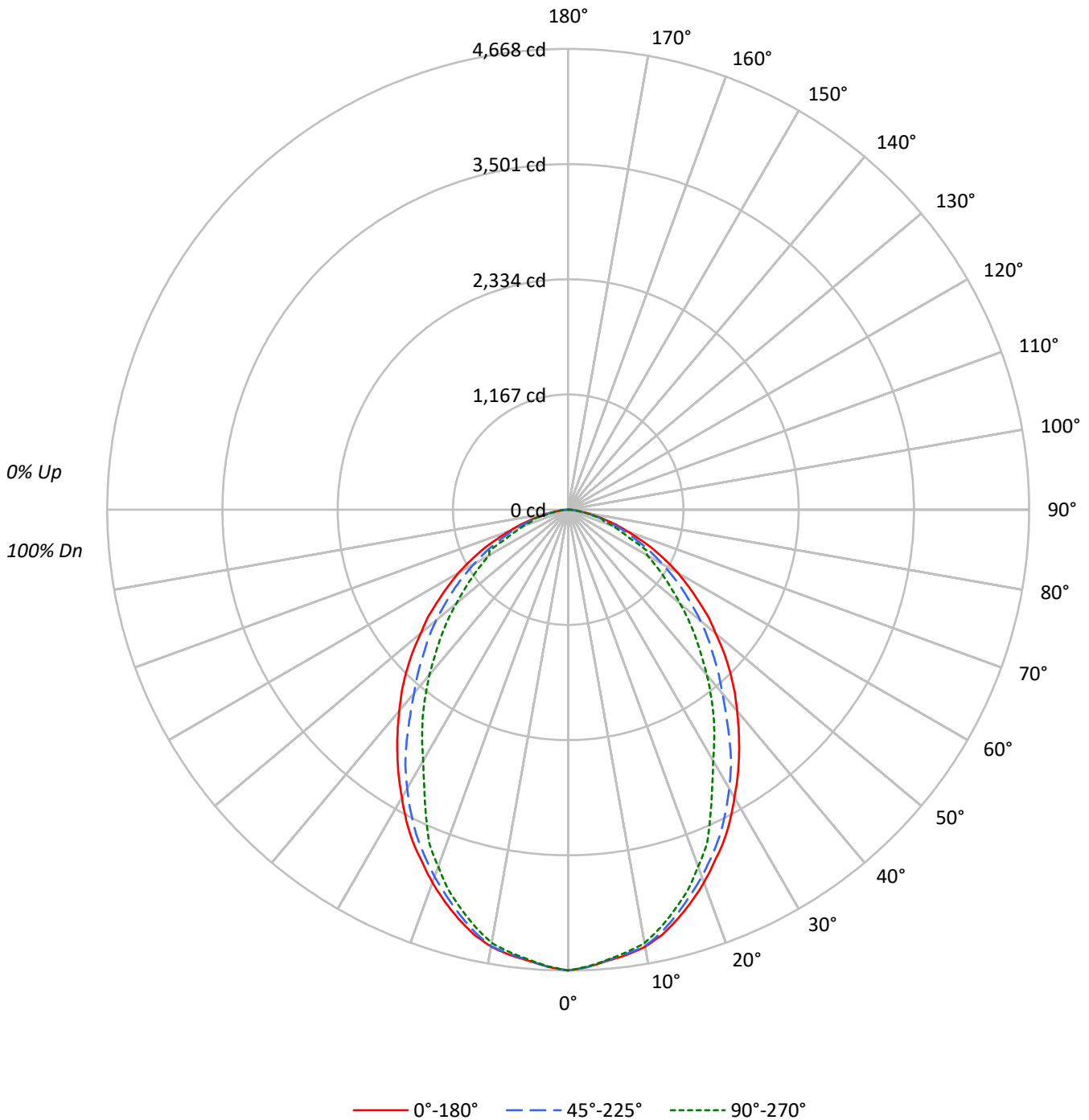
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6280	6280	6280
5°	6195	6188	6180
10°	6141	6134	6089
15°	5975	5915	5833
20°	5756	5663	5509
25°	5519	5399	5063
30°	5231	5064	4561
35°	4954	4680	4219
40°	4672	4265	3838
45°	4405	3943	3470
50°	4077	3660	3095
55°	3772	3316	2772
60°	3456	2962	2483
65°	3041	2594	2199
70°	2505	2271	1868
75°	1992	1739	1823
80°	1338	1254	1171
85°	834	1000	1166

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4405 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	434.5	4.7
10°-20°	1192.4	13.0
20°-30°	1650.8	18.0
30°-40°	1760.2	19.2
40°-50°	1605.8	17.5
50°-60°	1258.1	13.7
60°-70°	819.9	8.9
70°-80°	363.3	4.0
80°-90°	78.0	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°	3277.7	35.8
0°-40°	5037.9	55.0
0°-60°	7901.8	86.2
0°-90°	9163.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9163.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4668	4668	4668	4668	4668	
5°	4587	4581	4581	4576	4576	435
15°	4290	4290	4247	4204	4187	1206
25°	3718	3696	3637	3507	3410	1707
35°	3016	2995	2849	2633	2568	1886
45°	2315	2266	2072	1899	1824	1783
55°	1608	1559	1414	1246	1182	1442
65°	955	901	815	831	691	941
75°	383	356	334	318	351	411
85°	54	59	65	70	76	75
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4667.5	4667.5	4667.5	4667.5	4667.5
2.5°	4635.1	4635.1	4635.1	4629.7	4629.7
5°	4586.6	4581.2	4581.2	4575.8	4575.8
7.5°	4548.8	4543.4	4538.0	4532.6	4521.8
10°	4494.8	4494.8	4489.4	4462.5	4457.1
12.5°	4408.5	4403.1	4381.5	4343.8	4333.0
15°	4289.8	4289.8	4246.6	4203.5	4187.3
17.5°	4160.3	4154.9	4100.9	4057.8	4036.2
20°	4020.0	4009.2	3955.2	3885.1	3847.3
22.5°	3863.5	3863.5	3798.8	3707.0	3669.3
25°	3717.8	3696.2	3636.9	3507.4	3410.2
27.5°	3550.5	3518.2	3453.4	3270.0	3156.6
30°	3367.1	3350.9	3259.2	3021.7	2935.4
32.5°	3194.4	3167.4	3070.3	2822.1	2751.9
35°	3016.3	2994.8	2849.1	2633.2	2568.5
37.5°	2838.3	2811.3	2627.8	2455.2	2374.2
40°	2660.2	2627.8	2428.2	2271.7	2185.4
42.5°	2492.9	2449.8	2255.5	2088.2	1991.1
45°	2314.9	2266.3	2072.1	1899.4	1823.8
47.5°	2136.8	2093.6	1915.6	1737.5	1651.2
50°	1947.9	1910.2	1748.3	1570.2	1478.5
52.5°	1791.5	1732.1	1575.6	1397.6	1322.0
55°	1608.0	1559.4	1413.7	1246.5	1181.7
57.5°	1440.7	1392.2	1257.3	1100.8	1046.8
60°	1284.2	1214.1	1100.8	965.9	922.7
62.5°	1111.6	1057.6	960.5	847.2	901.1
65°	955.1	901.1	814.8	831.0	690.7
67.5°	782.4	755.4	679.9	604.3	582.8
70°	636.7	604.3	577.4	496.4	474.8
72.5°	507.2	474.8	437.1	393.9	377.7
75°	383.1	356.1	334.5	318.4	350.7
77.5°	264.4	253.6	237.4	221.2	215.8
80°	172.7	167.3	161.9	156.5	151.1
82.5°	102.5	102.5	102.5	102.5	102.5
85°	54.0	59.4	64.8	70.1	75.5
87.5°	32.4	32.4	37.8	43.2	48.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)