

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: P563948

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563948
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-40-UNV-93-96-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9825.0 lumens
Efficiency: N/A
Efficacy: 105.0 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

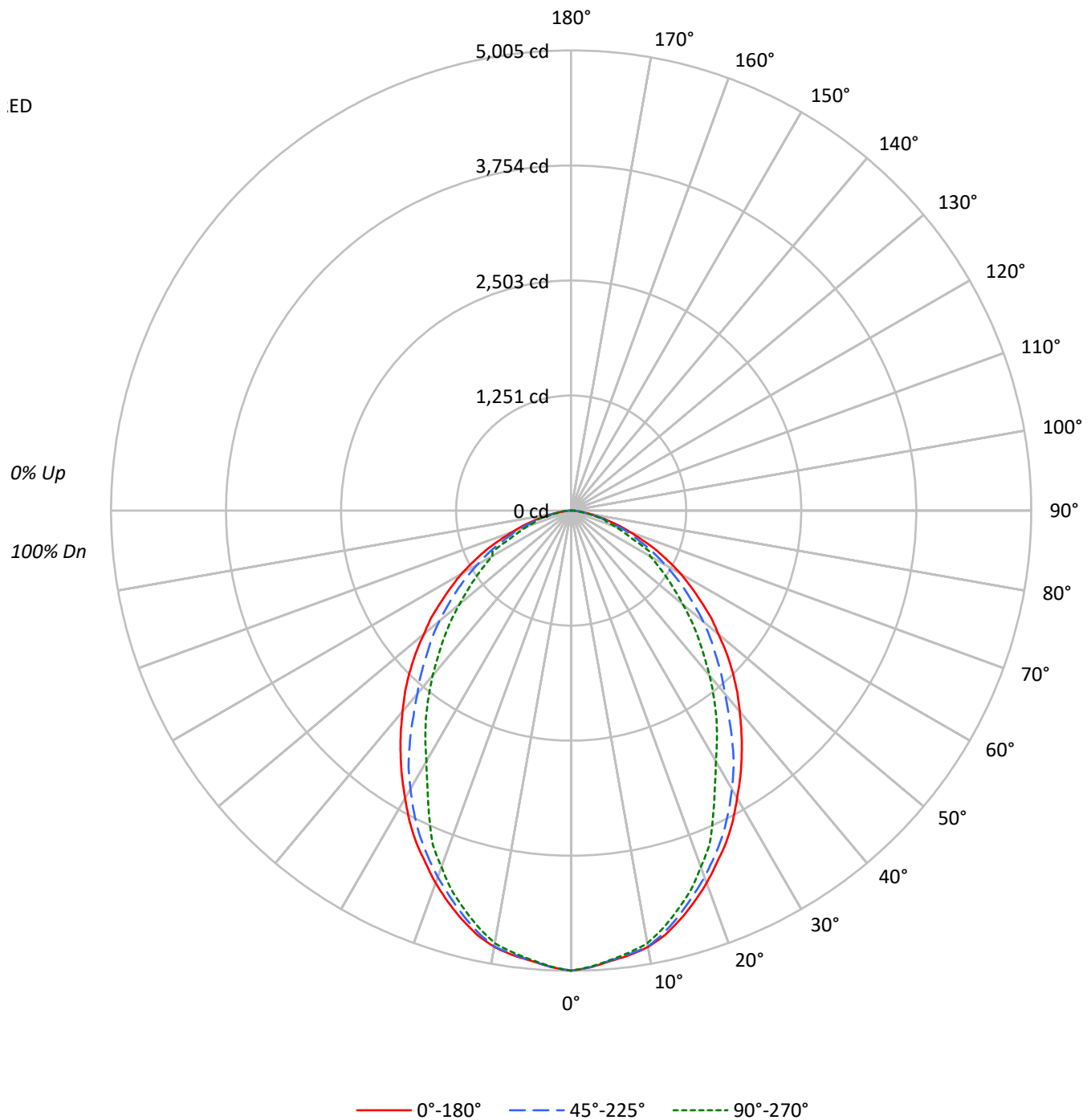
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6734	6734	6734
5°	6642	6635	6627
10°	6585	6577	6529
15°	6407	6343	6254
20°	6172	6072	5907
25°	5918	5789	5429
30°	5609	5429	4890
35°	5312	5018	4524
40°	5010	4573	4116
45°	4723	4228	3721
50°	4372	3924	3318
55°	4045	3556	2972
60°	3705	3176	2662
65°	3260	2782	2358
70°	2686	2436	2003
75°	2136	1865	1955
80°	1434	1345	1255
85°	894	1071	1250

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4723 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	465.9	4.7
10°-20°	1278.5	13.0
20°-30°	1770.1	18.0
30°-40°	1887.4	19.2
40°-50°	1721.9	17.5
50°-60°	1348.9	13.7
60°-70°	879.2	8.9
70°-80°	389.5	4.0
80°-90°	83.6	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°	3514.5	35.8
0°-40°	5401.9	55.0
0°-60°	8472.7	86.2
0°-90°	9825.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9825.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5005	5005	5005	5005	5005	
5°	4918	4912	4912	4906	4906	467
15°	4600	4600	4553	4507	4490	1293
25°	3986	3963	3900	3761	3657	1830
35°	3234	3211	3055	2824	2754	2022
45°	2482	2430	2222	2037	1956	1912
55°	1724	1672	1516	1336	1267	1546
65°	1024	966	874	891	741	1009
75°	411	382	359	341	376	440
85°	58	64	69	75	81	80
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5004.7	5004.7	5004.7	5004.7	5004.7
2.5°	4970.0	4970.0	4970.0	4964.2	4964.2
5°	4917.9	4912.2	4912.2	4906.4	4906.4
7.5°	4877.4	4871.7	4865.9	4860.1	4848.5
10°	4819.6	4819.6	4813.8	4784.9	4779.1
12.5°	4727.0	4721.2	4698.1	4657.6	4646.0
15°	4599.7	4599.7	4553.4	4507.1	4489.8
17.5°	4460.9	4455.1	4397.2	4350.9	4327.8
20°	4310.4	4298.9	4241.0	4165.8	4125.3
22.5°	4142.6	4142.6	4073.2	3974.8	3934.3
25°	3986.4	3963.3	3899.6	3760.8	3656.6
27.5°	3807.1	3772.3	3702.9	3506.2	3384.7
30°	3610.3	3593.0	3494.6	3240.1	3147.5
32.5°	3425.2	3396.3	3292.1	3026.0	2950.8
35°	3234.3	3211.1	3054.9	2823.5	2754.0
37.5°	3043.3	3014.4	2817.7	2632.5	2545.8
40°	2852.4	2817.7	2603.6	2435.8	2343.3
42.5°	2673.0	2626.8	2418.5	2239.1	2135.0
45°	2482.1	2430.0	2221.8	2036.6	1955.6
47.5°	2291.2	2244.9	2054.0	1863.0	1770.5
50°	2088.7	2048.2	1874.6	1683.7	1585.3
52.5°	1920.9	1857.2	1689.5	1498.5	1417.5
55°	1724.2	1672.1	1515.9	1336.5	1267.1
57.5°	1544.8	1492.7	1348.1	1180.3	1122.4
60°	1377.0	1301.8	1180.3	1035.7	989.4
62.5°	1191.9	1134.0	1029.9	908.4	966.2
65°	1024.1	966.2	873.7	891.0	740.6
67.5°	838.9	810.0	729.0	648.0	624.9
70°	682.7	648.0	619.1	532.3	509.2
72.5°	543.9	509.2	468.7	422.4	405.0
75°	410.8	381.9	358.7	341.4	376.1
77.5°	283.5	271.9	254.6	237.2	231.4
80°	185.1	179.4	173.6	167.8	162.0
82.5°	109.9	109.9	109.9	109.9	109.9
85°	57.9	63.6	69.4	75.2	81.0
87.5°	34.7	34.7	40.5	46.3	52.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)