

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: P561516

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561516
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-12-4-LD4-2HI-50-UNV-93-96-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

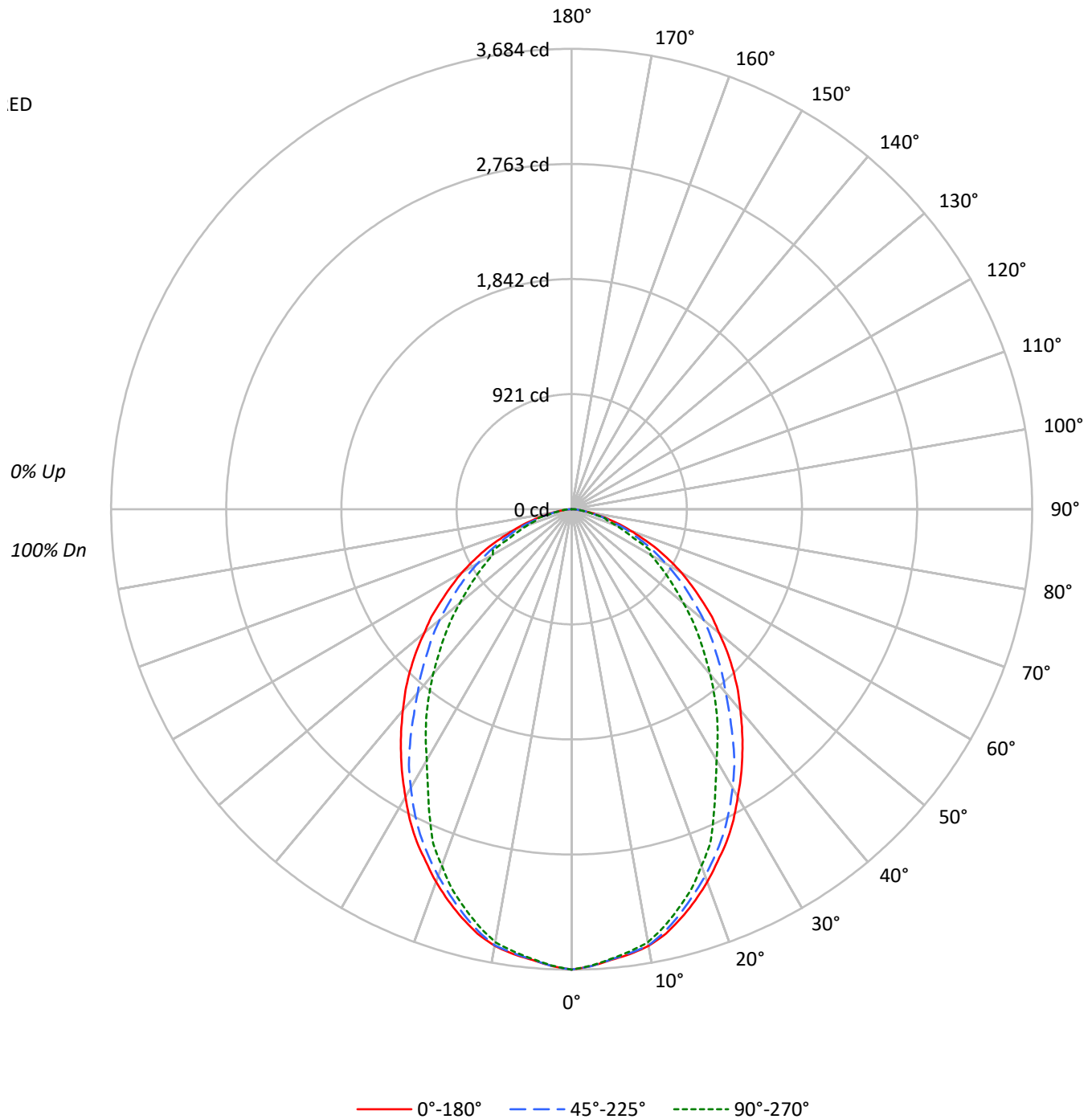
Lumens per Lamp: N/A
Luminaire Lumens: 7232.0 lumens
Efficiency: N/A
Efficacy: 83.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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°	9913	9913	9913
5°	9779	9767	9756
10°	9694	9682	9612
15°	9433	9338	9207
20°	9086	8940	8696
25°	8712	8523	7992
30°	8258	7993	7199
35°	7821	7387	6660
40°	7376	6732	6059
45°	6953	6224	5478
50°	6436	5777	4885
55°	5954	5235	4376
60°	5455	4676	3920
65°	4800	4095	3471
70°	3954	3585	2949
75°	3144	2745	2878
80°	2112	1980	1847
85°	1315	1578	1840

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6953 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	342.9	4.7
10°-20°	941.1	13.0
20°-30°	1302.9	18.0
30°-40°	1389.3	19.2
40°-50°	1267.4	17.5
50°-60°	992.9	13.7
60°-70°	647.1	8.9
70°-80°	286.7	4.0
80°-90°	61.6	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°	2586.9	35.8
0°-40°	3976.2	55.0
0°-60°	6236.6	86.2
0°-90°	7232.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7232.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3684	3684	3684	3684	3684	
5°	3620	3616	3616	3612	3612	344
15°	3386	3386	3352	3318	3305	952
25°	2934	2917	2870	2768	2692	1347
35°	2381	2364	2249	2078	2027	1488
45°	1827	1789	1635	1499	1440	1407
55°	1269	1231	1116	984	933	1138
65°	754	711	643	656	545	743
75°	302	281	264	251	277	324
85°	43	47	51	55	60	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3683.9	3683.9	3683.9	3683.9	3683.9
2.5°	3658.3	3658.3	3658.3	3654.1	3654.1
5°	3620.0	3615.7	3615.7	3611.5	3611.5
7.5°	3590.2	3585.9	3581.7	3577.4	3568.9
10°	3547.6	3547.6	3543.3	3522.0	3517.8
12.5°	3479.5	3475.2	3458.2	3428.4	3419.8
15°	3385.8	3385.8	3351.7	3317.6	3304.8
17.5°	3283.6	3279.3	3236.7	3202.6	3185.6
20°	3172.8	3164.3	3121.7	3066.4	3036.5
22.5°	3049.3	3049.3	2998.2	2925.8	2896.0
25°	2934.3	2917.3	2870.4	2768.2	2691.6
27.5°	2802.3	2776.8	2725.6	2580.8	2491.4
30°	2657.5	2644.7	2572.3	2384.9	2316.8
32.5°	2521.2	2499.9	2423.3	2227.4	2172.0
35°	2380.7	2363.6	2248.7	2078.3	2027.2
37.5°	2240.1	2218.8	2074.0	1937.8	1873.9
40°	2099.6	2074.0	1916.5	1793.0	1724.8
42.5°	1967.6	1933.5	1780.2	1648.2	1571.5
45°	1827.0	1788.7	1635.4	1499.1	1439.5
47.5°	1686.5	1652.4	1511.9	1371.3	1303.2
50°	1537.4	1507.6	1379.9	1239.3	1166.9
52.5°	1413.9	1367.1	1243.6	1103.0	1043.4
55°	1269.1	1230.8	1115.8	983.8	932.7
57.5°	1137.1	1098.8	992.3	868.8	826.2
60°	1013.6	958.2	868.8	762.3	728.3
62.5°	877.3	834.7	758.1	668.6	711.2
65°	753.8	711.2	643.1	655.9	545.1
67.5°	617.5	596.2	536.6	477.0	460.0
70°	502.5	477.0	455.7	391.8	374.8
72.5°	400.3	374.8	345.0	310.9	298.1
75°	302.4	281.1	264.0	251.3	276.8
77.5°	208.7	200.2	187.4	174.6	170.4
80°	136.3	132.0	127.8	123.5	119.2
82.5°	80.9	80.9	80.9	80.9	80.9
85°	42.6	46.8	51.1	55.4	59.6
87.5°	25.6	25.6	29.8	34.1	38.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)