

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: P561653

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-80-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561653
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-LD4-2LO-50-UNV-80-86-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONM
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

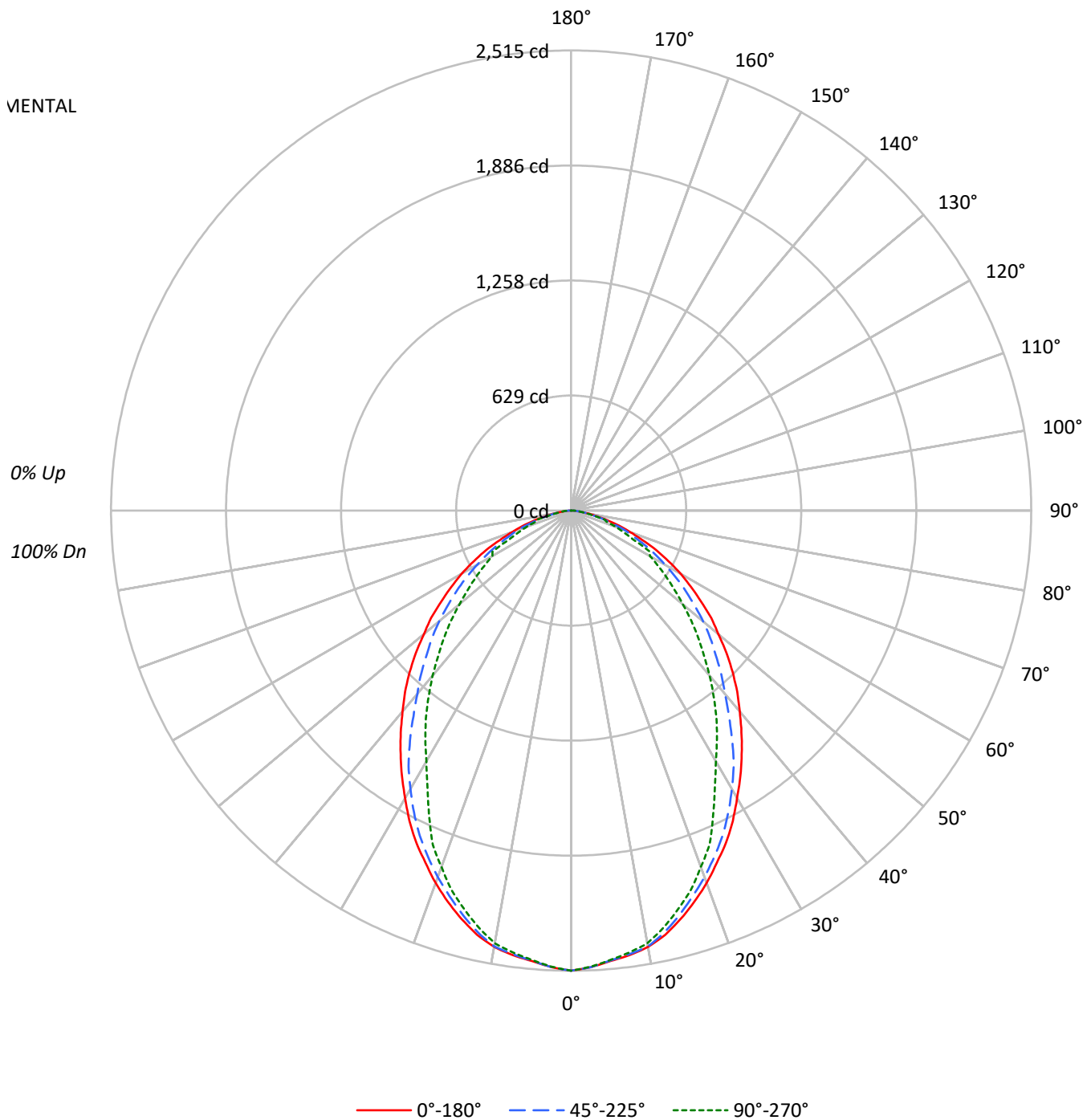
Lumens per Lamp: N/A
Luminaire Lumens: 4937.0 lumens
Efficiency: N/A
Efficacy: 105.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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°	6767	6767	6767
5°	6675	6668	6660
10°	6618	6610	6562
15°	6439	6374	6285
20°	6203	6103	5936
25°	5948	5818	5456
30°	5637	5456	4914
35°	5339	5043	4546
40°	5035	4596	4136
45°	4746	4249	3740
50°	4394	3944	3335
55°	4065	3574	2987
60°	3724	3192	2676
65°	3277	2795	2369
70°	2699	2448	2013
75°	2146	1875	1965
80°	1441	1351	1261
85°	898	1078	1257

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4746 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	234.1	4.7
10°-20°	642.5	13.0
20°-30°	889.4	18.0
30°-40°	948.4	19.2
40°-50°	865.2	17.5
50°-60°	677.8	13.7
60°-70°	441.8	8.9
70°-80°	195.7	4.0
80°-90°	42.0	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°	1766.0	35.8
0°-40°	2714.4	55.0
0°-60°	4257.5	86.2
0°-90°	4937.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4937.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2515	2515	2515	2515	2515	
5°	2471	2468	2468	2465	2465	235
15°	2311	2311	2288	2265	2256	650
25°	2003	1992	1960	1890	1837	920
35°	1625	1614	1535	1419	1384	1016
45°	1247	1221	1116	1023	983	961
55°	866	840	762	672	637	777
65°	515	486	439	448	372	507
75°	206	192	180	172	189	221
85°	29	32	35	38	41	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2514.8	2514.8	2514.8	2514.8	2514.8
2.5°	2497.4	2497.4	2497.4	2494.5	2494.5
5°	2471.2	2468.3	2468.3	2465.4	2465.4
7.5°	2450.9	2448.0	2445.1	2442.2	2436.3
10°	2421.8	2421.8	2418.9	2404.4	2401.5
12.5°	2375.3	2372.4	2360.8	2340.4	2334.6
15°	2311.3	2311.3	2288.1	2264.8	2256.1
17.5°	2241.6	2238.6	2209.6	2186.3	2174.7
20°	2166.0	2160.1	2131.1	2093.3	2072.9
22.5°	2081.6	2081.6	2046.8	1997.3	1977.0
25°	2003.2	1991.5	1959.5	1889.8	1837.4
27.5°	1913.0	1895.6	1860.7	1761.8	1700.8
30°	1814.2	1805.5	1756.0	1628.1	1581.6
32.5°	1721.1	1706.6	1654.3	1520.5	1482.7
35°	1625.2	1613.6	1535.1	1418.8	1383.9
37.5°	1529.3	1514.7	1415.9	1322.8	1279.2
40°	1433.3	1415.9	1308.3	1224.0	1177.5
42.5°	1343.2	1319.9	1215.3	1125.1	1072.8
45°	1247.2	1221.1	1116.4	1023.4	982.7
47.5°	1151.3	1128.0	1032.1	936.2	889.6
50°	1049.5	1029.2	942.0	846.0	796.6
52.5°	965.2	933.3	848.9	753.0	712.3
55°	866.4	840.2	761.7	671.6	636.7
57.5°	776.3	750.1	677.4	593.1	564.0
60°	691.9	654.1	593.1	520.4	497.2
62.5°	598.9	569.8	517.5	456.5	485.5
65°	514.6	485.5	439.0	447.7	372.1
67.5°	421.6	407.0	366.3	325.6	314.0
70°	343.1	325.6	311.1	267.5	255.8
72.5°	273.3	255.8	235.5	212.2	203.5
75°	206.4	191.9	180.3	171.5	189.0
77.5°	142.5	136.6	127.9	119.2	116.3
80°	93.0	90.1	87.2	84.3	81.4
82.5°	55.2	55.2	55.2	55.2	55.2
85°	29.1	32.0	34.9	37.8	40.7
87.5°	17.4	17.4	20.4	23.3	26.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)