

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: P561652

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-80-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561652
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-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONM
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

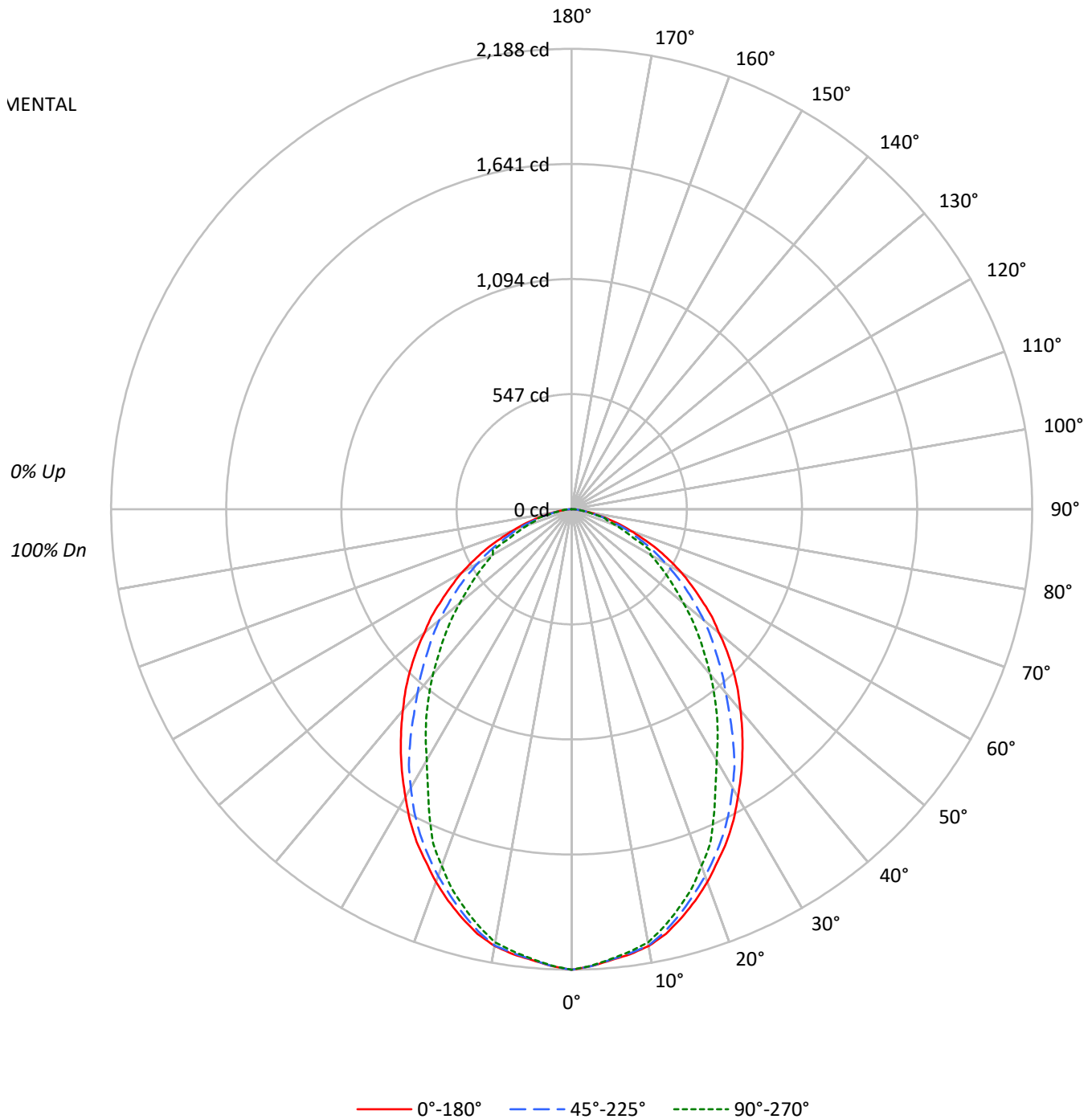
Lumens per Lamp: N/A
Luminaire Lumens: 4296.0 lumens
Efficiency: N/A
Efficacy: 91.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	5889	5889	5889
5°	5809	5802	5795
10°	5758	5751	5710
15°	5603	5547	5469
20°	5397	5310	5166
25°	5176	5063	4747
30°	4905	4748	4276
35°	4646	4388	3956
40°	4381	3999	3599
45°	4130	3697	3254
50°	3823	3432	2902
55°	3537	3110	2599
60°	3240	2778	2328
65°	2851	2432	2062
70°	2349	2130	1751
75°	1867	1631	1709
80°	1255	1176	1097
85°	781	939	1093

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4130 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.7	4.7
10°-20°	559.0	13.0
20°-30°	774.0	18.0
30°-40°	825.3	19.2
40°-50°	752.9	17.5
50°-60°	589.8	13.7
60°-70°	384.4	8.9
70°-80°	170.3	4.0
80°-90°	36.6	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°	1536.7	35.8
0°-40°	2362.0	55.0
0°-60°	3704.7	86.2
0°-90°	4296.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4296.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2188	2188	2188	2188	2188	
5°	2150	2148	2148	2145	2145	204
15°	2011	2011	1991	1971	1963	565
25°	1743	1733	1705	1644	1599	800
35°	1414	1404	1336	1235	1204	884
45°	1085	1062	972	890	855	836
55°	754	731	663	584	554	676
65°	448	422	382	390	324	441
75°	180	167	157	149	164	193
85°	25	28	30	33	35	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2188.3	2188.3	2188.3	2188.3	2188.3
2.5°	2173.1	2173.1	2173.1	2170.6	2170.6
5°	2150.4	2147.8	2147.8	2145.3	2145.3
7.5°	2132.7	2130.1	2127.6	2125.1	2120.0
10°	2107.4	2107.4	2104.8	2092.2	2089.7
12.5°	2066.9	2064.4	2054.2	2036.5	2031.5
15°	2011.2	2011.2	1991.0	1970.8	1963.2
17.5°	1950.5	1948.0	1922.7	1902.5	1892.3
20°	1884.7	1879.7	1854.4	1821.5	1803.8
22.5°	1811.4	1811.4	1781.0	1738.0	1720.3
25°	1743.1	1733.0	1705.1	1644.4	1598.9
27.5°	1664.6	1649.5	1619.1	1533.1	1480.0
30°	1578.6	1571.0	1528.0	1416.7	1376.2
32.5°	1497.7	1485.0	1439.5	1323.1	1290.2
35°	1414.2	1404.1	1335.8	1234.6	1204.2
37.5°	1330.7	1318.1	1232.0	1151.1	1113.1
40°	1247.2	1232.0	1138.4	1065.1	1024.6
42.5°	1168.8	1148.6	1057.5	979.1	933.5
45°	1085.3	1062.5	971.5	890.5	855.1
47.5°	1001.8	981.6	898.1	814.6	774.1
50°	913.3	895.6	819.7	736.2	693.2
52.5°	839.9	812.1	738.7	655.2	619.8
55°	753.9	731.1	662.8	584.4	554.0
57.5°	675.5	652.7	589.5	516.1	490.8
60°	602.1	569.2	516.1	452.8	432.6
62.5°	521.2	495.9	450.3	397.2	422.5
65°	447.8	422.5	382.0	389.6	323.8
67.5°	366.8	354.2	318.8	283.3	273.2
70°	298.5	283.3	270.7	232.7	222.6
72.5°	237.8	222.6	204.9	184.7	177.1
75°	179.6	167.0	156.9	149.3	164.4
77.5°	124.0	118.9	111.3	103.7	101.2
80°	81.0	78.4	75.9	73.4	70.8
82.5°	48.1	48.1	48.1	48.1	48.1
85°	25.3	27.8	30.4	32.9	35.4
87.5°	15.2	15.2	17.7	20.2	22.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)