

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: P560831

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-80-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560831
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-LD4-1HI-40-UNV-80-97-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

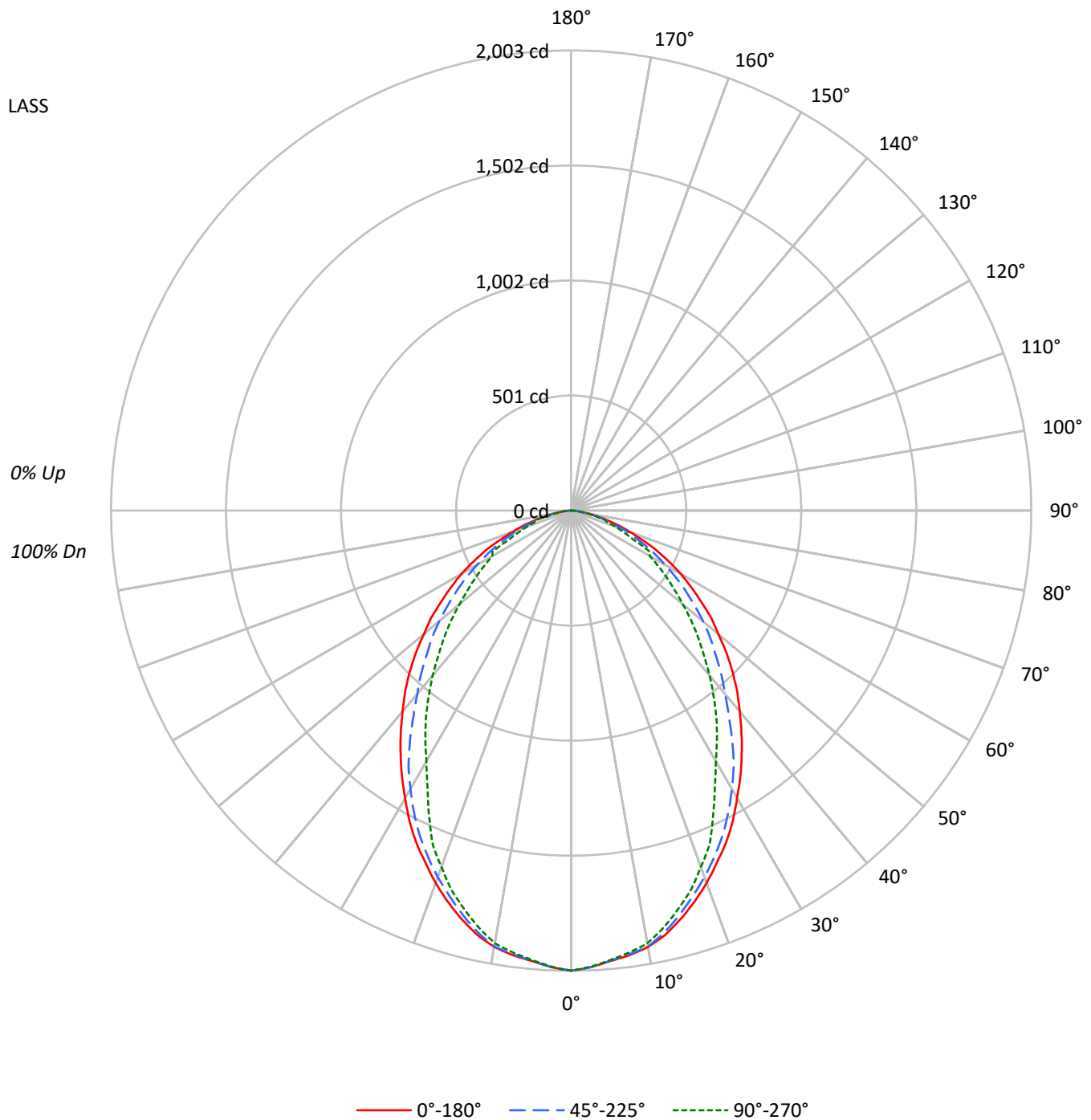
Lumens per Lamp: N/A
Luminaire Lumens: 3932.0 lumens
Efficiency: N/A
Efficacy: 91.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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°	5390	5390	5390
5°	5317	5310	5304
10°	5270	5264	5226
15°	5128	5077	5006
20°	4940	4861	4728
25°	4737	4634	4345
30°	4490	4346	3914
35°	4252	4016	3621
40°	4010	3660	3294
45°	3780	3384	2978
50°	3499	3141	2656
55°	3237	2846	2379
60°	2966	2542	2131
65°	2609	2226	1887
70°	2150	1950	1603
75°	1709	1493	1565
80°	1148	1077	1004
85°	716	858	1000

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3780 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.4	4.7
10°-20°	511.7	13.0
20°-30°	708.4	18.0
30°-40°	755.3	19.2
40°-50°	689.1	17.5
50°-60°	539.9	13.7
60°-70°	351.8	8.9
70°-80°	155.9	4.0
80°-90°	33.5	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°	1406.5	35.8
0°-40°	2161.9	55.0
0°-60°	3390.8	86.2
0°-90°	3932.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3932.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2003	2003	2003	2003	2003	
5°	1968	1966	1966	1964	1964	187
15°	1841	1841	1822	1804	1797	518
25°	1595	1586	1561	1505	1463	732
35°	1294	1285	1223	1130	1102	809
45°	993	972	889	815	783	765
55°	690	669	607	535	507	619
65°	410	387	350	357	296	404
75°	164	153	144	137	150	176
85°	23	26	28	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2002.9	2002.9	2002.9	2002.9	2002.9
2.5°	1989.0	1989.0	1989.0	1986.7	1986.7
5°	1968.2	1965.9	1965.9	1963.5	1963.5
7.5°	1952.0	1949.7	1947.3	1945.0	1940.4
10°	1928.8	1928.8	1926.5	1914.9	1912.6
12.5°	1891.8	1889.4	1880.2	1864.0	1859.3
15°	1840.8	1840.8	1822.3	1803.8	1796.8
17.5°	1785.3	1782.9	1759.8	1741.3	1732.0
20°	1725.0	1720.4	1697.3	1667.2	1651.0
22.5°	1657.9	1657.9	1630.1	1590.7	1574.5
25°	1595.4	1586.1	1560.6	1505.1	1463.4
27.5°	1523.6	1509.7	1481.9	1403.2	1354.6
30°	1444.9	1437.9	1398.6	1296.7	1259.6
32.5°	1370.8	1359.2	1317.5	1211.0	1180.9
35°	1294.4	1285.1	1222.6	1130.0	1102.2
37.5°	1218.0	1206.4	1127.6	1053.6	1018.8
40°	1141.5	1127.6	1042.0	974.8	937.8
42.5°	1069.8	1051.2	967.9	896.1	854.4
45°	993.3	972.5	889.2	815.1	782.6
47.5°	916.9	898.4	822.0	745.6	708.5
50°	835.9	819.7	750.2	673.8	634.4
52.5°	768.7	743.3	676.1	599.7	567.3
55°	690.0	669.2	606.7	534.9	507.1
57.5°	618.2	597.4	539.5	472.4	449.2
60°	551.1	521.0	472.4	414.5	396.0
62.5°	477.0	453.8	412.2	363.5	386.7
65°	409.8	386.7	349.6	356.6	296.4
67.5°	335.7	324.2	291.8	259.3	250.1
70°	273.2	259.3	247.8	213.0	203.8
72.5°	217.7	203.8	187.6	169.0	162.1
75°	164.4	152.8	143.6	136.6	150.5
77.5°	113.5	108.8	101.9	94.9	92.6
80°	74.1	71.8	69.5	67.1	64.8
82.5°	44.0	44.0	44.0	44.0	44.0
85°	23.2	25.5	27.8	30.1	32.4
87.5°	13.9	13.9	16.2	18.5	20.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)