

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: P561596

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-80-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561596
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-40-UNV-80-96-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

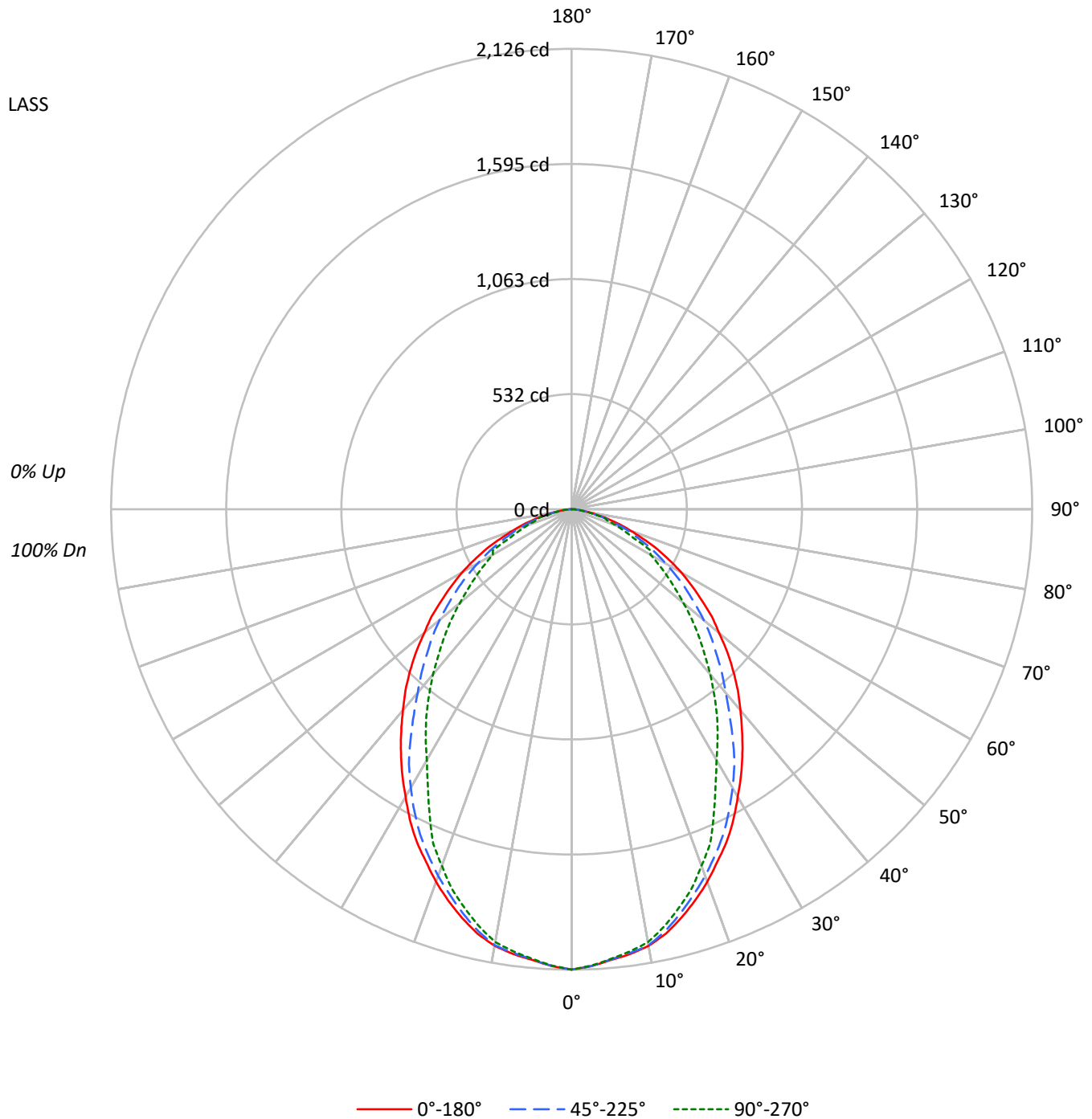
Lumens per Lamp: N/A
Luminaire Lumens: 4173.0 lumens
Efficiency: N/A
Efficacy: 89.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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	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°	5720	5720	5720
5°	5642	5636	5629
10°	5593	5587	5546
15°	5443	5388	5313
20°	5243	5158	5017
25°	5027	4918	4611
30°	4765	4612	4154
35°	4513	4262	3843
40°	4256	3884	3496
45°	4012	3591	3161
50°	3714	3333	2819
55°	3436	3020	2525
60°	3148	2698	2261
65°	2770	2363	2003
70°	2282	2068	1702
75°	1814	1585	1660
80°	1218	1142	1066
85°	760	911	1062

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4012 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.9	4.7
10°-20°	543.0	13.0
20°-30°	751.8	18.0
30°-40°	801.6	19.2
40°-50°	731.3	17.5
50°-60°	572.9	13.7
60°-70°	373.4	8.9
70°-80°	165.4	4.0
80°-90°	35.5	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°	1492.7	35.8
0°-40°	2294.4	55.0
0°-60°	3598.6	86.2
0°-90°	4173.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4173.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2126	2126	2126	2126	2126	
5°	2089	2086	2086	2084	2084	198
15°	1954	1954	1934	1914	1907	549
25°	1693	1683	1656	1597	1553	777
35°	1374	1364	1298	1199	1170	859
45°	1054	1032	944	865	831	812
55°	732	710	644	568	538	657
65°	435	410	371	378	315	429
75°	174	162	152	145	160	187
85°	25	27	30	32	34	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2125.7	2125.7	2125.7	2125.7	2125.7
2.5°	2110.9	2110.9	2110.9	2108.5	2108.5
5°	2088.8	2086.4	2086.4	2083.9	2083.9
7.5°	2071.6	2069.1	2066.7	2064.2	2059.3
10°	2047.0	2047.0	2044.6	2032.3	2029.8
12.5°	2007.7	2005.3	1995.4	1978.2	1973.3
15°	1953.7	1953.7	1934.0	1914.3	1907.0
17.5°	1894.7	1892.2	1867.6	1848.0	1838.2
20°	1830.8	1825.9	1801.3	1769.3	1752.1
22.5°	1759.5	1759.5	1730.0	1688.2	1671.0
25°	1693.2	1683.3	1656.3	1597.3	1553.1
27.5°	1617.0	1602.2	1572.8	1489.2	1437.6
30°	1533.4	1526.1	1484.3	1376.2	1336.8
32.5°	1454.8	1442.5	1398.3	1285.2	1253.3
35°	1373.7	1363.9	1297.5	1199.2	1169.7
37.5°	1292.6	1280.3	1196.8	1118.1	1081.3
40°	1211.5	1196.8	1105.8	1034.6	995.3
42.5°	1135.3	1115.7	1027.2	951.0	906.8
45°	1054.2	1032.1	943.7	865.0	830.6
47.5°	973.1	953.5	872.4	791.3	752.0
50°	887.1	869.9	796.2	715.1	673.3
52.5°	815.9	788.8	717.6	636.5	602.1
55°	732.3	710.2	643.8	567.7	538.2
57.5°	656.1	634.0	572.6	501.3	476.7
60°	584.9	552.9	501.3	439.9	420.2
62.5°	506.2	481.7	437.4	385.8	410.4
65°	435.0	410.4	371.1	378.4	314.6
67.5°	356.3	344.0	309.6	275.2	265.4
70°	290.0	275.2	262.9	226.1	216.3
72.5°	231.0	216.3	199.1	179.4	172.0
75°	174.5	162.2	152.4	145.0	159.7
77.5°	120.4	115.5	108.1	100.8	98.3
80°	78.6	76.2	73.7	71.3	68.8
82.5°	46.7	46.7	46.7	46.7	46.7
85°	24.6	27.0	29.5	31.9	34.4
87.5°	14.7	14.7	17.2	19.7	22.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)