

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: P561535

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-80-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561535
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

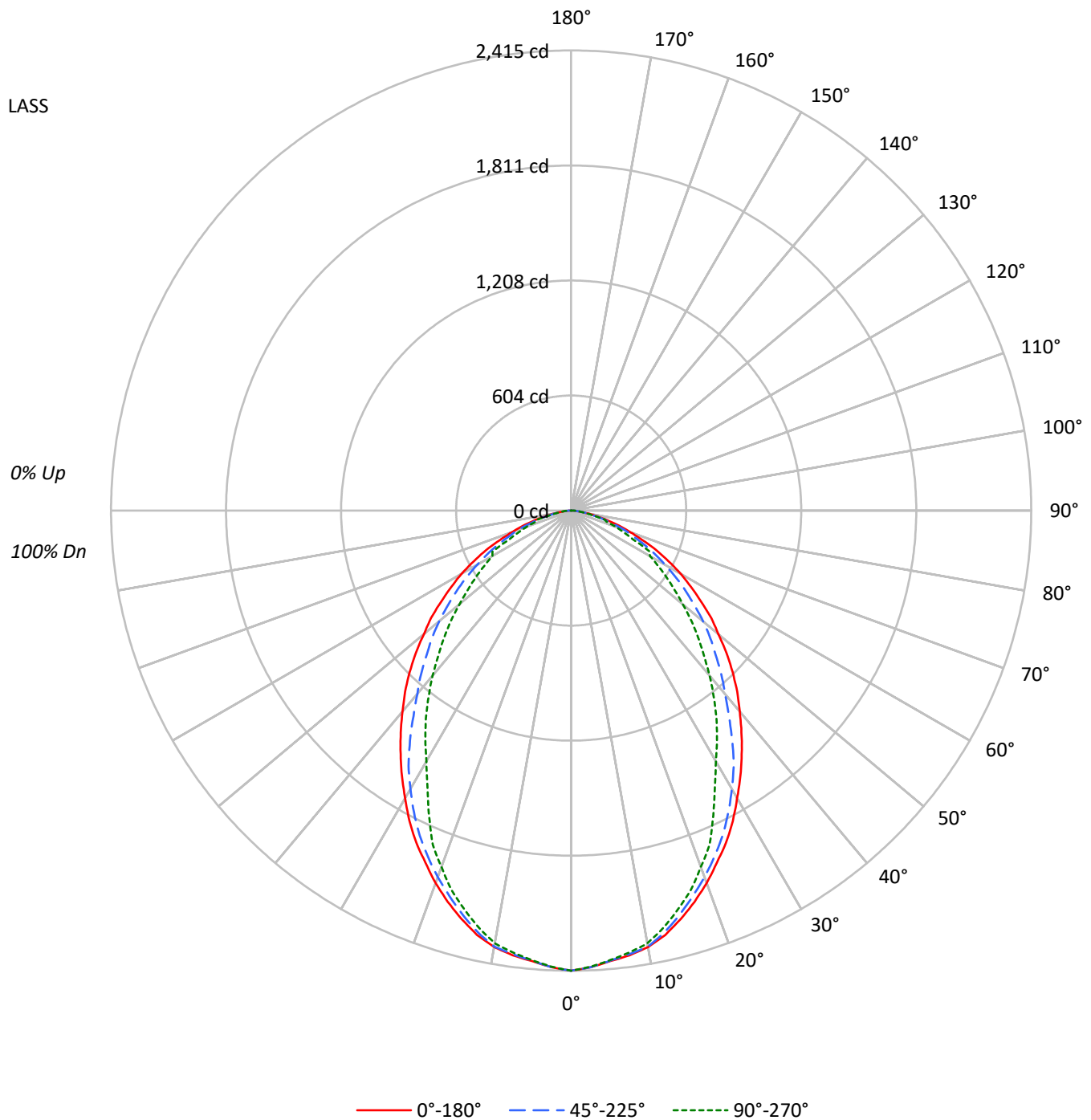
Lumens per Lamp: N/A
Luminaire Lumens: 4741.0 lumens
Efficiency: N/A
Efficacy: 101.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	6499	6499	6499
5°	6410	6403	6395
10°	6355	6347	6301
15°	6184	6121	6036
20°	5956	5861	5700
25°	5711	5587	5239
30°	5413	5240	4719
35°	5127	4843	4366
40°	4835	4414	3972
45°	4558	4080	3591
50°	4219	3787	3203
55°	3903	3432	2868
60°	3576	3065	2569
65°	3147	2684	2276
70°	2592	2350	1933
75°	2061	1800	1887
80°	1384	1299	1212
85°	861	1034	1207

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4558 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	224.8	4.7
10°-20°	617.0	13.0
20°-30°	854.1	18.0
30°-40°	910.8	19.2
40°-50°	830.9	17.5
50°-60°	650.9	13.7
60°-70°	424.2	8.9
70°-80°	188.0	4.0
80°-90°	40.3	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°	1695.9	35.8
0°-40°	2606.7	55.0
0°-60°	4088.4	86.2
0°-90°	4741.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4741.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2415	2415	2415	2415	2415	
5°	2373	2370	2370	2368	2368	225
15°	2220	2220	2197	2175	2166	624
25°	1924	1912	1882	1815	1764	883
35°	1561	1550	1474	1362	1329	976
45°	1198	1173	1072	983	944	923
55°	832	807	732	645	611	746
65°	494	466	422	430	357	487
75°	198	184	173	165	182	212
85°	28	31	34	36	39	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2415.0	2415.0	2415.0	2415.0	2415.0
2.5°	2398.3	2398.3	2398.3	2395.5	2395.5
5°	2373.1	2370.3	2370.3	2367.5	2367.5
7.5°	2353.6	2350.8	2348.0	2345.2	2339.6
10°	2325.7	2325.7	2322.9	2308.9	2306.1
12.5°	2281.0	2278.2	2267.0	2247.5	2241.9
15°	2219.6	2219.6	2197.2	2174.9	2166.5
17.5°	2152.6	2149.8	2121.9	2099.5	2088.3
20°	2080.0	2074.4	2046.5	2010.2	1990.6
22.5°	1999.0	1999.0	1965.5	1918.0	1898.5
25°	1923.6	1912.5	1881.7	1814.7	1764.5
27.5°	1837.1	1820.3	1786.8	1691.9	1633.3
30°	1742.2	1733.8	1686.3	1563.5	1518.8
32.5°	1652.8	1638.9	1588.6	1460.2	1423.9
35°	1560.7	1549.5	1474.1	1362.5	1328.9
37.5°	1468.5	1454.6	1359.7	1270.3	1228.4
40°	1376.4	1359.7	1256.4	1175.4	1130.7
42.5°	1289.9	1267.5	1167.0	1080.5	1030.2
45°	1197.7	1172.6	1072.1	982.8	943.7
47.5°	1105.6	1083.3	991.1	899.0	854.3
50°	1007.9	988.3	904.6	812.4	765.0
52.5°	926.9	896.2	815.2	723.1	684.0
55°	832.0	806.9	731.5	644.9	611.4
57.5°	745.4	720.3	650.5	569.5	541.6
60°	664.5	628.2	569.5	499.8	477.4
62.5°	575.1	547.2	497.0	438.3	466.2
65°	494.2	466.2	421.6	430.0	357.4
67.5°	404.8	390.9	351.8	312.7	301.5
70°	329.4	312.7	298.7	256.9	245.7
72.5°	262.4	245.7	226.1	203.8	195.4
75°	198.2	184.3	173.1	164.7	181.5
77.5°	136.8	131.2	122.8	114.5	111.7
80°	89.3	86.5	83.8	81.0	78.2
82.5°	53.0	53.0	53.0	53.0	53.0
85°	27.9	30.7	33.5	36.3	39.1
87.5°	16.8	16.8	19.5	22.3	25.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)