

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: P561533

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-80-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561533
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-80-96-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

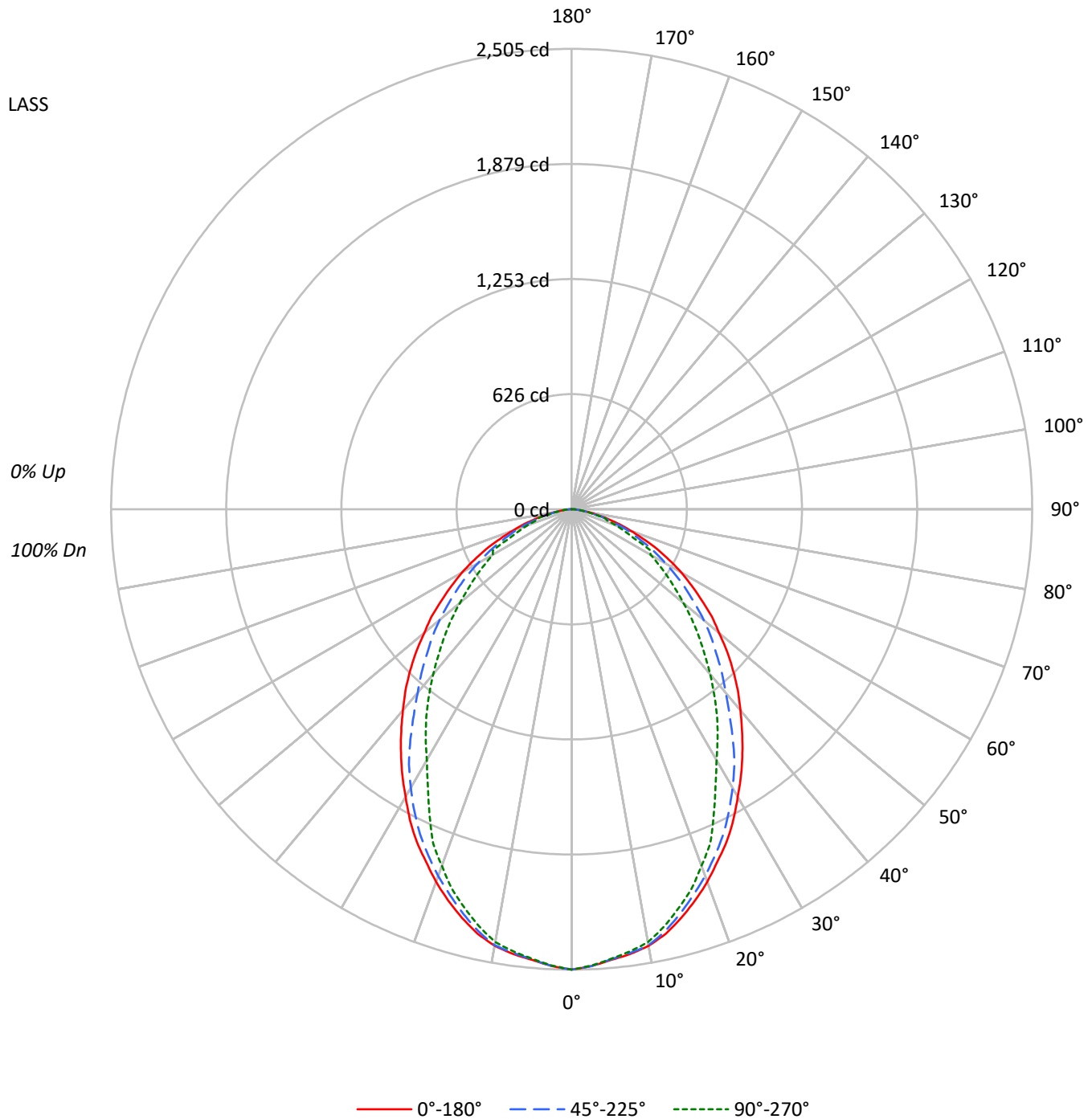
Lumens per Lamp: N/A
Luminaire Lumens: 4917.0 lumens
Efficiency: N/A
Efficacy: 105.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	6740	6740	6740
5°	6648	6641	6633
10°	6591	6583	6535
15°	6413	6349	6260
20°	6178	6078	5912
25°	5923	5795	5434
30°	5614	5434	4895
35°	5317	5023	4528
40°	5015	4577	4119
45°	4727	4231	3725
50°	4376	3928	3322
55°	4048	3559	2975
60°	3709	3179	2665
65°	3263	2784	2360
70°	2688	2437	2005
75°	2138	1866	1957
80°	1437	1347	1257
85°	895	1071	1250

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4727 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	233.2	4.7
10°-20°	639.9	13.0
20°-30°	885.8	18.0
30°-40°	944.6	19.2
40°-50°	861.7	17.5
50°-60°	675.1	13.7
60°-70°	440.0	8.9
70°-80°	194.9	4.0
80°-90°	41.9	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°	1758.9	35.8
0°-40°	2703.4	55.0
0°-60°	4240.2	86.2
0°-90°	4917.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4917.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2505	2505	2505	2505	2505	
5°	2461	2458	2458	2455	2455	234
15°	2302	2302	2279	2256	2247	647
25°	1995	1984	1952	1882	1830	916
35°	1619	1607	1529	1413	1378	1012
45°	1242	1216	1112	1019	979	957
55°	863	837	759	669	634	774
65°	512	484	437	446	371	505
75°	206	191	180	171	188	220
85°	29	32	35	38	40	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2504.7	2504.7	2504.7	2504.7	2504.7
2.5°	2487.3	2487.3	2487.3	2484.4	2484.4
5°	2461.2	2458.3	2458.3	2455.4	2455.4
7.5°	2441.0	2438.1	2435.2	2432.3	2426.5
10°	2412.0	2412.0	2409.1	2394.6	2391.7
12.5°	2365.7	2362.8	2351.2	2330.9	2325.1
15°	2302.0	2302.0	2278.8	2255.6	2246.9
17.5°	2232.5	2229.6	2200.6	2177.5	2165.9
20°	2157.2	2151.4	2122.4	2084.8	2064.5
22.5°	2073.2	2073.2	2038.5	1989.2	1969.0
25°	1995.0	1983.5	1951.6	1882.1	1830.0
27.5°	1905.3	1887.9	1853.2	1754.7	1693.9
30°	1806.8	1798.1	1748.9	1621.5	1575.2
32.5°	1714.2	1699.7	1647.6	1514.4	1476.7
35°	1618.6	1607.0	1528.9	1413.0	1378.3
37.5°	1523.1	1508.6	1410.1	1317.5	1274.0
40°	1427.5	1410.1	1303.0	1219.0	1172.7
42.5°	1337.7	1314.6	1210.3	1120.6	1068.5
45°	1242.2	1216.1	1111.9	1019.2	978.7
47.5°	1146.6	1123.5	1027.9	932.4	886.0
50°	1045.3	1025.0	938.2	842.6	793.4
52.5°	961.3	929.5	845.5	749.9	709.4
55°	862.9	836.8	758.6	668.9	634.1
57.5°	773.1	747.1	674.7	590.7	561.7
60°	689.1	651.5	590.7	518.3	495.1
62.5°	596.5	567.5	515.4	454.6	483.6
65°	512.5	483.6	437.2	445.9	370.6
67.5°	419.9	405.4	364.8	324.3	312.7
70°	341.7	324.3	309.8	266.4	254.8
72.5°	272.2	254.8	234.5	211.4	202.7
75°	205.6	191.1	179.5	170.8	188.2
77.5°	141.9	136.1	127.4	118.7	115.8
80°	92.7	89.8	86.9	84.0	81.1
82.5°	55.0	55.0	55.0	55.0	55.0
85°	29.0	31.9	34.7	37.6	40.5
87.5°	17.4	17.4	20.3	23.2	26.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)