

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: P561557

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-82-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561557
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-82-86-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

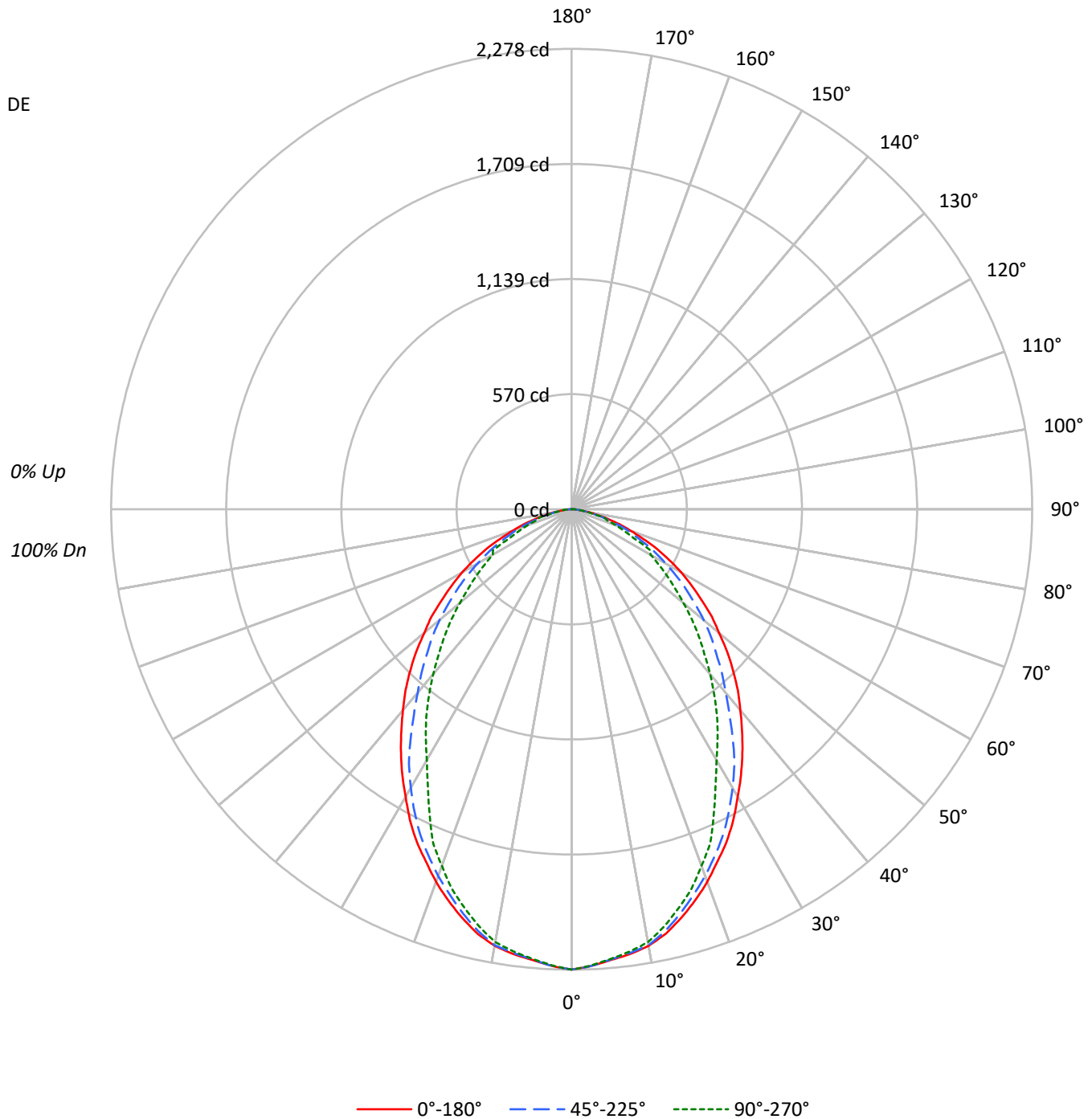
Lumens per Lamp: N/A
Luminaire Lumens: 4471.0 lumens
Efficiency: N/A
Efficacy: 95.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6129	6129	6129
5°	6045	6038	6031
10°	5993	5986	5943
15°	5831	5773	5692
20°	5617	5527	5376
25°	5386	5269	4941
30°	5105	4941	4451
35°	4835	4567	4117
40°	4560	4162	3746
45°	4298	3847	3387
50°	3979	3571	3020
55°	3681	3236	2705
60°	3372	2891	2423
65°	2967	2532	2146
70°	2445	2216	1823
75°	1943	1697	1779
80°	1306	1224	1142
85°	812	976	1139

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4298 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	212.0	4.7
10°-20°	581.8	13.0
20°-30°	805.5	18.0
30°-40°	858.9	19.2
40°-50°	783.6	17.5
50°-60°	613.9	13.7
60°-70°	400.1	8.9
70°-80°	177.2	4.0
80°-90°	38.1	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°	1599.3	35.8
0°-40°	2458.2	55.0
0°-60°	3855.6	86.2
0°-90°	4471.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4471.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2278	2278	2278	2278	2278	
5°	2238	2235	2235	2233	2233	212
15°	2093	2093	2072	2051	2043	588
25°	1814	1804	1775	1711	1664	833
35°	1472	1461	1390	1285	1253	920
45°	1130	1106	1011	927	890	870
55°	785	761	690	608	577	704
65°	466	440	398	406	337	459
75°	187	174	163	155	171	200
85°	26	29	32	34	37	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2277.5	2277.5	2277.5	2277.5	2277.5
2.5°	2261.7	2261.7	2261.7	2259.0	2259.0
5°	2238.0	2235.3	2235.3	2232.7	2232.7
7.5°	2219.5	2216.9	2214.3	2211.6	2206.4
10°	2193.2	2193.2	2190.6	2177.4	2174.8
12.5°	2151.1	2148.5	2137.9	2119.5	2114.2
15°	2093.2	2093.2	2072.1	2051.0	2043.1
17.5°	2030.0	2027.3	2001.0	1979.9	1969.4
20°	1961.5	1956.3	1929.9	1895.7	1877.3
22.5°	1885.2	1885.2	1853.6	1808.8	1790.4
25°	1814.1	1803.5	1774.6	1711.4	1664.0
27.5°	1732.5	1716.7	1685.1	1595.5	1540.3
30°	1642.9	1635.0	1590.3	1474.4	1432.3
32.5°	1558.7	1545.5	1498.1	1377.0	1342.8
35°	1471.8	1461.3	1390.2	1284.9	1253.3
37.5°	1384.9	1371.7	1282.2	1198.0	1158.5
40°	1298.0	1282.2	1184.8	1108.5	1066.3
42.5°	1216.4	1195.3	1100.6	1018.9	971.5
45°	1129.5	1105.8	1011.0	926.8	889.9
47.5°	1042.6	1021.6	934.7	847.8	805.7
50°	950.5	932.1	853.1	766.2	721.4
52.5°	874.1	845.2	768.8	681.9	645.1
55°	784.6	760.9	689.8	608.2	576.6
57.5°	703.0	679.3	613.5	537.1	510.8
60°	626.6	592.4	537.1	471.3	450.2
62.5°	542.4	516.1	468.7	413.4	439.7
65°	466.0	439.7	397.6	405.5	337.0
67.5°	381.8	368.6	331.7	294.9	284.4
70°	310.7	294.9	281.7	242.2	231.7
72.5°	247.5	231.7	213.3	192.2	184.3
75°	186.9	173.8	163.2	155.3	171.1
77.5°	129.0	123.7	115.8	107.9	105.3
80°	84.3	81.6	79.0	76.4	73.7
82.5°	50.0	50.0	50.0	50.0	50.0
85°	26.3	29.0	31.6	34.2	36.9
87.5°	15.8	15.8	18.4	21.1	23.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)