

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: P561539

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-81-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561539
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-81-85-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

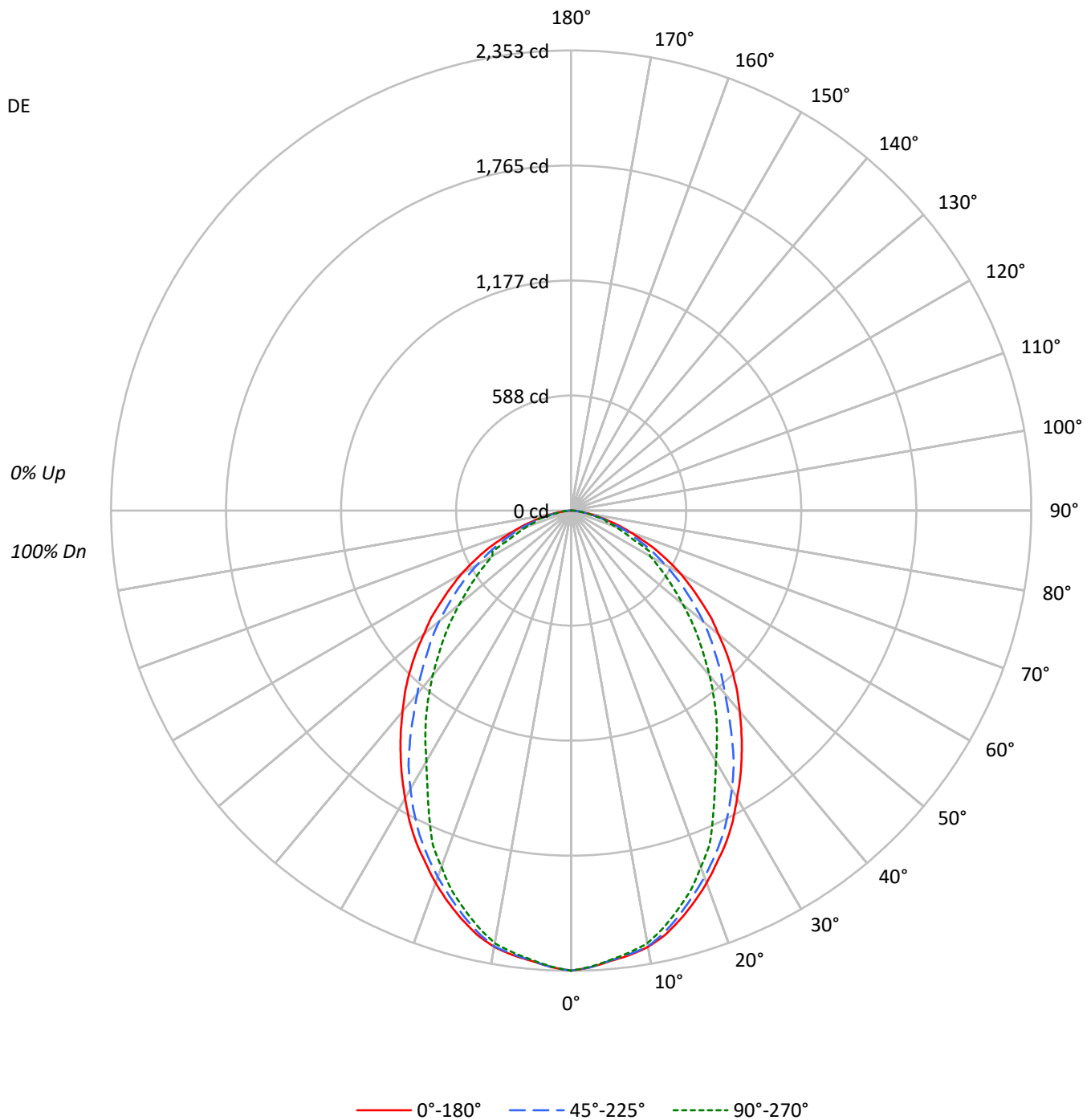
Lumens per Lamp: N/A
Luminaire Lumens: 4619.0 lumens
Efficiency: N/A
Efficacy: 98.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	6332	6332	6332
5°	6246	6238	6231
10°	6191	6184	6139
15°	6025	5964	5880
20°	5803	5710	5554
25°	5565	5443	5104
30°	5274	5105	4598
35°	4995	4718	4254
40°	4711	4300	3870
45°	4441	3975	3499
50°	4111	3689	3120
55°	3803	3344	2795
60°	3484	2986	2503
65°	3066	2615	2217
70°	2526	2290	1884
75°	2008	1753	1838
80°	1348	1265	1181
85°	840	1007	1176

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4441 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	219.0	4.7
10°-20°	601.1	13.0
20°-30°	832.2	18.0
30°-40°	887.3	19.2
40°-50°	809.5	17.5
50°-60°	634.2	13.7
60°-70°	413.3	8.9
70°-80°	183.1	4.0
80°-90°	39.3	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°	1652.3	35.8
0°-40°	2539.6	55.0
0°-60°	3983.2	86.2
0°-90°	4619.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4619.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2353	2353	2353	2353	2353	
5°	2312	2309	2309	2307	2307	219
15°	2162	2162	2141	2119	2111	608
25°	1874	1863	1833	1768	1719	860
35°	1520	1510	1436	1327	1295	951
45°	1167	1142	1044	958	919	899
55°	811	786	713	628	596	727
65°	482	454	411	419	348	474
75°	193	180	169	160	177	207
85°	27	30	33	35	38	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2352.9	2352.9	2352.9	2352.9	2352.9
2.5°	2336.5	2336.5	2336.5	2333.8	2333.8
5°	2312.1	2309.3	2309.3	2306.6	2306.6
7.5°	2293.0	2290.3	2287.6	2284.9	2279.4
10°	2265.8	2265.8	2263.1	2249.5	2246.8
12.5°	2222.3	2219.6	2208.7	2189.7	2184.2
15°	2162.5	2162.5	2140.7	2118.9	2110.8
17.5°	2097.2	2094.5	2067.2	2045.5	2034.6
20°	2026.4	2021.0	1993.8	1958.4	1939.4
22.5°	1947.6	1947.6	1914.9	1868.7	1849.6
25°	1874.1	1863.2	1833.3	1768.0	1719.1
27.5°	1789.8	1773.5	1740.8	1648.4	1591.2
30°	1697.3	1689.2	1642.9	1523.2	1479.7
32.5°	1610.3	1596.7	1547.7	1422.6	1387.2
35°	1520.5	1509.6	1436.2	1327.4	1294.8
37.5°	1430.8	1417.2	1324.7	1237.6	1196.8
40°	1341.0	1324.7	1224.0	1145.1	1101.6
42.5°	1256.7	1234.9	1137.0	1052.7	1003.7
45°	1166.9	1142.4	1044.5	957.5	919.4
47.5°	1077.1	1055.4	965.6	875.9	832.3
50°	981.9	962.9	881.3	791.5	745.3
52.5°	903.1	873.1	794.3	704.5	666.4
55°	810.6	786.1	712.7	628.3	595.7
57.5°	726.3	701.8	633.8	554.9	527.7
60°	647.4	612.0	554.9	486.9	465.1
62.5°	560.3	533.1	484.2	427.1	454.3
65°	481.5	454.3	410.7	418.9	348.2
67.5°	394.4	380.8	342.7	304.6	293.8
70°	321.0	304.6	291.0	250.2	239.4
72.5°	255.7	239.4	220.3	198.6	190.4
75°	193.1	179.5	168.6	160.5	176.8
77.5°	133.3	127.8	119.7	111.5	108.8
80°	87.0	84.3	81.6	78.9	76.2
82.5°	51.7	51.7	51.7	51.7	51.7
85°	27.2	29.9	32.6	35.4	38.1
87.5°	16.3	16.3	19.0	21.8	24.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)