

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: P561942

Luminaire Tested: FSR-24-2-LD4-1LO-35-UNV-82-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561942
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-24-2-LD4-1LO-35-UNV-82-87-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

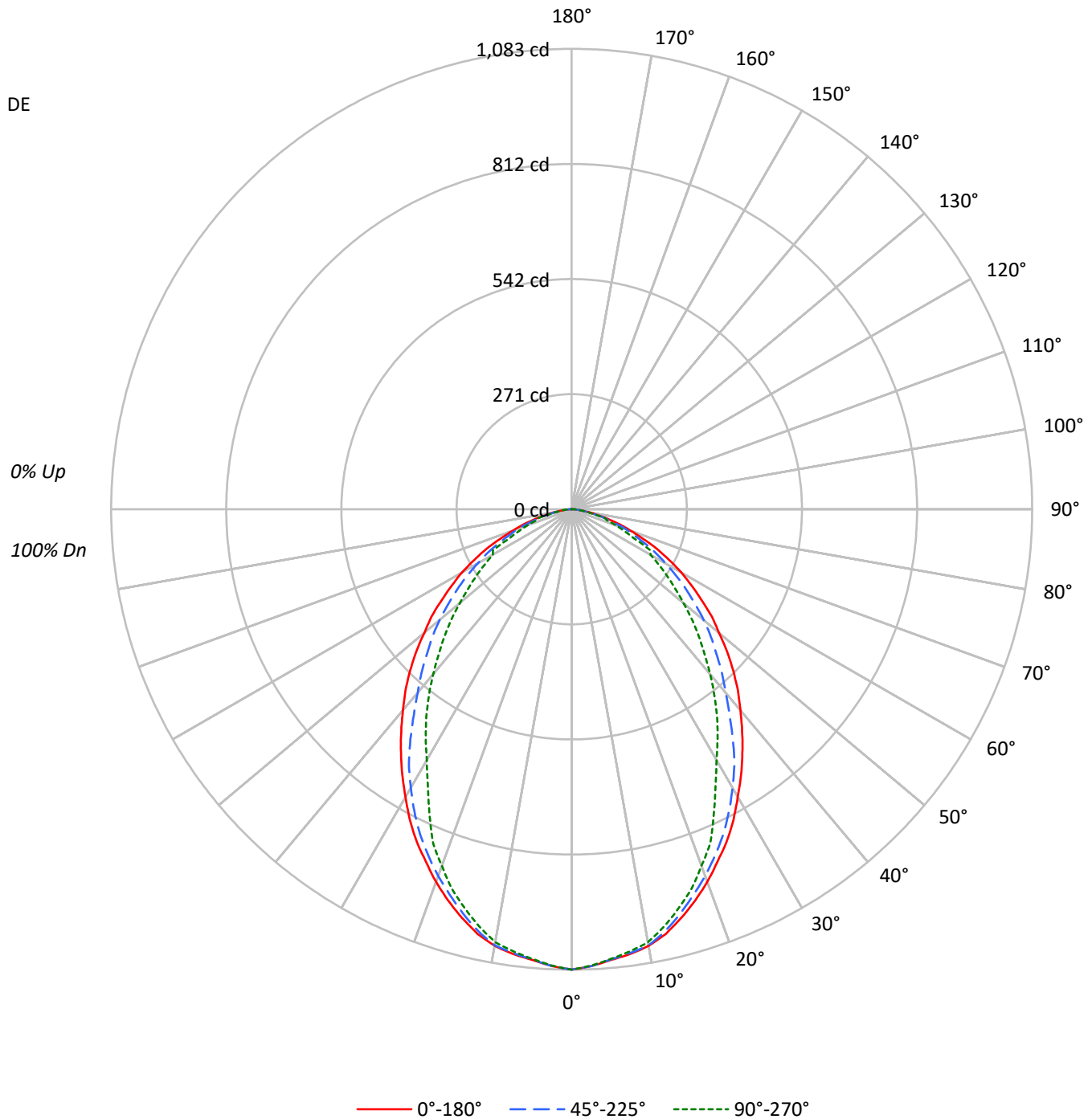
Lumens per Lamp: N/A
Luminaire Lumens: 2126.0 lumens
Efficiency: N/A
Efficacy: 90.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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	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°	1457	1457	1457
5°	1437	1436	1434
10°	1425	1423	1413
15°	1386	1372	1353
20°	1335	1314	1278
25°	1281	1253	1175
30°	1214	1175	1058
35°	1150	1086	979
40°	1084	990	891
45°	1022	915	805
50°	946	849	718
55°	875	769	643
60°	802	687	576
65°	706	602	510
70°	581	527	434
75°	462	403	423
80°	311	291	272
85°	193	232	270

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1022 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.8	4.7
10°-20°	276.7	13.0
20°-30°	383.0	18.0
30°-40°	408.4	19.2
40°-50°	372.6	17.5
50°-60°	291.9	13.7
60°-70°	190.2	8.9
70°-80°	84.3	4.0
80°-90°	18.1	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°	760.5	35.8
0°-40°	1168.9	55.0
0°-60°	1833.4	86.2
0°-90°	2126.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2126.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1083	1083	1083	1083	1083	
5°	1064	1063	1063	1062	1062	101
15°	995	995	985	975	972	280
25°	863	858	844	814	791	396
35°	700	695	661	611	596	438
45°	537	526	481	441	423	414
55°	373	362	328	289	274	335
65°	222	209	189	193	160	218
75°	89	83	78	74	81	95
85°	12	14	15	16	18	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1083.0	1083.0	1083.0	1083.0	1083.0
2.5°	1075.4	1075.4	1075.4	1074.2	1074.2
5°	1064.2	1062.9	1062.9	1061.7	1061.7
7.5°	1055.4	1054.2	1052.9	1051.7	1049.2
10°	1042.9	1042.9	1041.6	1035.4	1034.1
12.5°	1022.9	1021.6	1016.6	1007.8	1005.3
15°	995.3	995.3	985.3	975.3	971.5
17.5°	965.3	964.0	951.5	941.5	936.5
20°	932.7	930.2	917.7	901.4	892.7
22.5°	896.4	896.4	881.4	860.1	851.3
25°	862.6	857.6	843.8	813.8	791.2
27.5°	823.8	816.3	801.3	758.7	732.4
30°	781.2	777.5	756.2	701.1	681.1
32.5°	741.2	734.9	712.4	654.8	638.5
35°	699.9	694.8	661.0	611.0	595.9
37.5°	658.5	652.3	609.7	569.6	550.9
40°	617.2	609.7	563.4	527.1	507.0
42.5°	578.4	568.4	523.3	484.5	462.0
45°	537.1	525.8	480.8	440.7	423.2
47.5°	495.8	485.8	444.5	403.1	383.1
50°	452.0	443.2	405.6	364.3	343.0
52.5°	415.7	401.9	365.6	324.3	306.7
55°	373.1	361.8	328.0	289.2	274.2
57.5°	334.3	323.0	291.7	255.4	242.9
60°	298.0	281.7	255.4	224.1	214.1
62.5°	257.9	245.4	222.9	196.6	209.1
65°	221.6	209.1	189.0	192.8	160.3
67.5°	181.5	175.3	157.7	140.2	135.2
70°	147.7	140.2	134.0	115.2	110.2
72.5°	117.7	110.2	101.4	91.4	87.6
75°	88.9	82.6	77.6	73.9	81.4
77.5°	61.3	58.8	55.1	51.3	50.1
80°	40.1	38.8	37.6	36.3	35.1
82.5°	23.8	23.8	23.8	23.8	23.8
85°	12.5	13.8	15.0	16.3	17.5
87.5°	7.5	7.5	8.8	10.0	11.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)