

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: P560921

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-82-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560921
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-LD4-1HI-50-UNV-82-88-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

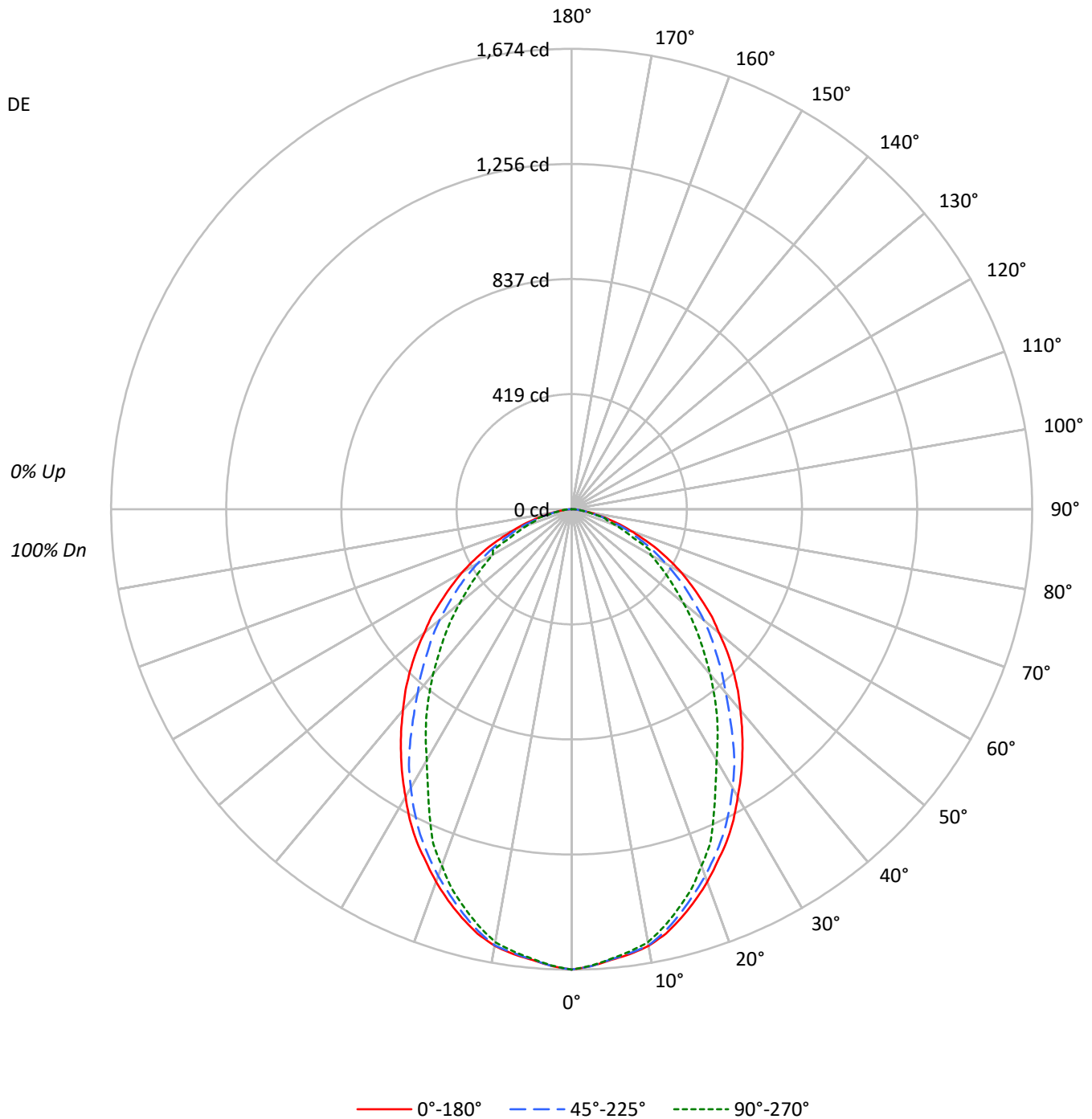
Lumens per Lamp: N/A
Luminaire Lumens: 3286.0 lumens
Efficiency: N/A
Efficacy: 76.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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	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°	4504	4504	4504
5°	4443	4438	4432
10°	4405	4399	4368
15°	4286	4243	4183
20°	4128	4062	3951
25°	3959	3872	3631
30°	3752	3632	3271
35°	3553	3356	3026
40°	3351	3059	2753
45°	3159	2828	2489
50°	2925	2625	2220
55°	2706	2379	1988
60°	2478	2125	1781
65°	2181	1861	1577
70°	1796	1629	1340
75°	1429	1248	1308
80°	959	900	840
85°	599	716	837

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3159 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.8	4.7
10°-20°	427.6	13.0
20°-30°	592.0	18.0
30°-40°	631.3	19.2
40°-50°	575.9	17.5
50°-60°	451.2	13.7
60°-70°	294.0	8.9
70°-80°	130.3	4.0
80°-90°	28.0	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°	1175.4	35.8
0°-40°	1806.7	55.0
0°-60°	2833.7	86.2
0°-90°	3286.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3286.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1674	1674	1674	1674	1674	
5°	1645	1643	1643	1641	1641	156
15°	1538	1538	1523	1507	1502	432
25°	1333	1326	1304	1258	1223	612
35°	1082	1074	1022	944	921	676
45°	830	813	743	681	654	639
55°	577	559	507	447	424	517
65°	342	323	292	298	248	338
75°	137	128	120	114	126	147
85°	19	21	23	25	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1673.8	1673.8	1673.8	1673.8	1673.8
2.5°	1662.2	1662.2	1662.2	1660.3	1660.3
5°	1644.8	1642.9	1642.9	1640.9	1640.9
7.5°	1631.3	1629.3	1627.4	1625.5	1621.6
10°	1611.9	1611.9	1610.0	1600.3	1598.4
12.5°	1581.0	1579.0	1571.3	1557.7	1553.9
15°	1538.4	1538.4	1522.9	1507.4	1501.6
17.5°	1491.9	1490.0	1470.7	1455.2	1447.4
20°	1441.6	1437.8	1418.4	1393.3	1379.7
22.5°	1385.5	1385.5	1362.3	1329.4	1315.9
25°	1333.3	1325.5	1304.2	1257.8	1223.0
27.5°	1273.3	1261.7	1238.5	1172.7	1132.0
30°	1207.5	1201.7	1168.8	1083.6	1052.7
32.5°	1145.6	1135.9	1101.1	1012.0	986.9
35°	1081.7	1074.0	1021.7	944.3	921.1
37.5°	1017.9	1008.2	942.4	880.5	851.4
40°	954.0	942.4	870.8	814.7	783.7
42.5°	894.0	878.5	808.9	748.9	714.0
45°	830.1	812.7	743.1	681.1	654.1
47.5°	766.3	750.8	687.0	623.1	592.1
50°	698.6	685.0	627.0	563.1	530.2
52.5°	642.4	621.2	565.0	501.2	474.1
55°	576.7	559.2	507.0	447.0	423.8
57.5°	516.7	499.3	450.9	394.8	375.4
60°	460.5	435.4	394.8	346.4	330.9
62.5°	398.6	379.3	344.4	303.8	323.2
65°	342.5	323.2	292.2	298.0	247.7
67.5°	280.6	270.9	243.8	216.7	209.0
70°	228.3	216.7	207.1	178.0	170.3
72.5°	181.9	170.3	156.7	141.3	135.5
75°	137.4	127.7	120.0	114.2	125.8
77.5°	94.8	90.9	85.1	79.3	77.4
80°	61.9	60.0	58.1	56.1	54.2
82.5°	36.8	36.8	36.8	36.8	36.8
85°	19.4	21.3	23.2	25.2	27.1
87.5°	11.6	11.6	13.5	15.5	17.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)