

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: P561552

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-82-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561552
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-82-84-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

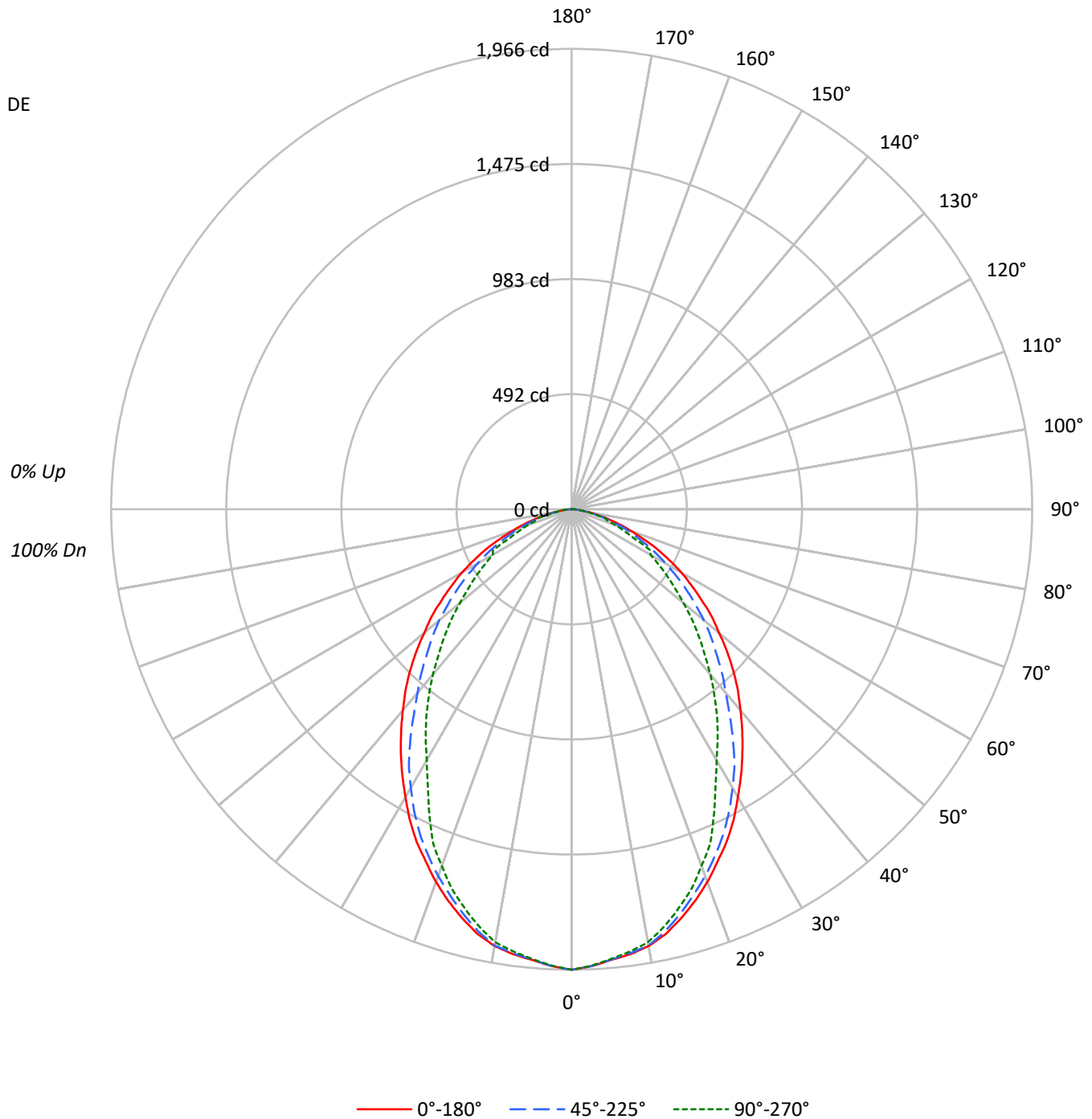
Lumens per Lamp: N/A
Luminaire Lumens: 3860.0 lumens
Efficiency: N/A
Efficacy: 82.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	5291	5291	5291
5°	5219	5213	5207
10°	5174	5168	5131
15°	5034	4984	4914
20°	4850	4771	4641
25°	4650	4549	4266
30°	4407	4266	3842
35°	4174	3943	3554
40°	3936	3593	3234
45°	3711	3322	2924
50°	3435	3083	2607
55°	3178	2794	2335
60°	2912	2496	2092
65°	2562	2185	1853
70°	2110	1913	1574
75°	1678	1465	1537
80°	1127	1057	986
85°	701	843	982

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3711 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.0	4.7
10°-20°	502.3	13.0
20°-30°	695.4	18.0
30°-40°	741.5	19.2
40°-50°	676.5	17.5
50°-60°	530.0	13.7
60°-70°	345.4	8.9
70°-80°	153.0	4.0
80°-90°	32.9	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°	1380.8	35.8
0°-40°	2122.3	55.0
0°-60°	3328.7	86.2
0°-90°	3860.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3860.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1966	1966	1966	1966	1966	
5°	1932	1930	1930	1928	1928	183
15°	1807	1807	1789	1771	1764	508
25°	1566	1557	1532	1478	1437	719
35°	1271	1262	1200	1109	1082	794
45°	975	955	873	800	768	751
55°	677	657	596	525	498	608
65°	402	380	343	350	291	397
75°	161	150	141	134	148	173
85°	23	25	27	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1966.2	1966.2	1966.2	1966.2	1966.2
2.5°	1952.6	1952.6	1952.6	1950.3	1950.3
5°	1932.1	1929.9	1929.9	1927.6	1927.6
7.5°	1916.2	1914.0	1911.7	1909.4	1904.9
10°	1893.5	1893.5	1891.2	1879.9	1877.6
12.5°	1857.1	1854.9	1845.8	1829.8	1825.3
15°	1807.1	1807.1	1788.9	1770.7	1763.9
17.5°	1752.6	1750.3	1727.6	1709.4	1700.3
20°	1693.5	1688.9	1666.2	1636.6	1620.7
22.5°	1627.5	1627.5	1600.3	1561.6	1545.7
25°	1566.2	1557.1	1532.1	1477.5	1436.6
27.5°	1495.7	1482.1	1454.8	1377.5	1329.8
30°	1418.4	1411.6	1373.0	1272.9	1236.6
32.5°	1345.7	1334.3	1293.4	1188.8	1159.3
35°	1270.7	1261.6	1200.2	1109.3	1082.0
37.5°	1195.7	1184.3	1107.0	1034.3	1000.2
40°	1120.6	1107.0	1022.9	957.0	920.6
42.5°	1050.2	1032.0	950.2	879.7	838.8
45°	975.2	954.7	872.9	800.1	768.3
47.5°	900.1	882.0	807.0	731.9	695.6
50°	820.6	804.7	736.5	661.5	622.8
52.5°	754.7	729.7	663.7	588.7	556.9
55°	677.4	656.9	595.6	525.1	497.8
57.5°	606.9	586.5	529.6	463.7	441.0
60°	541.0	511.4	463.7	406.9	388.7
62.5°	468.3	445.5	404.6	356.9	379.6
65°	402.3	379.6	343.2	350.1	291.0
67.5°	329.6	318.2	286.4	254.6	245.5
70°	268.2	254.6	243.2	209.1	200.0
72.5°	213.7	200.0	184.1	165.9	159.1
75°	161.4	150.0	140.9	134.1	147.8
77.5°	111.4	106.8	100.0	93.2	90.9
80°	72.7	70.5	68.2	65.9	63.6
82.5°	43.2	43.2	43.2	43.2	43.2
85°	22.7	25.0	27.3	29.6	31.8
87.5°	13.6	13.6	15.9	18.2	20.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)