

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: P561560

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-82-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561560
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-82-88-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

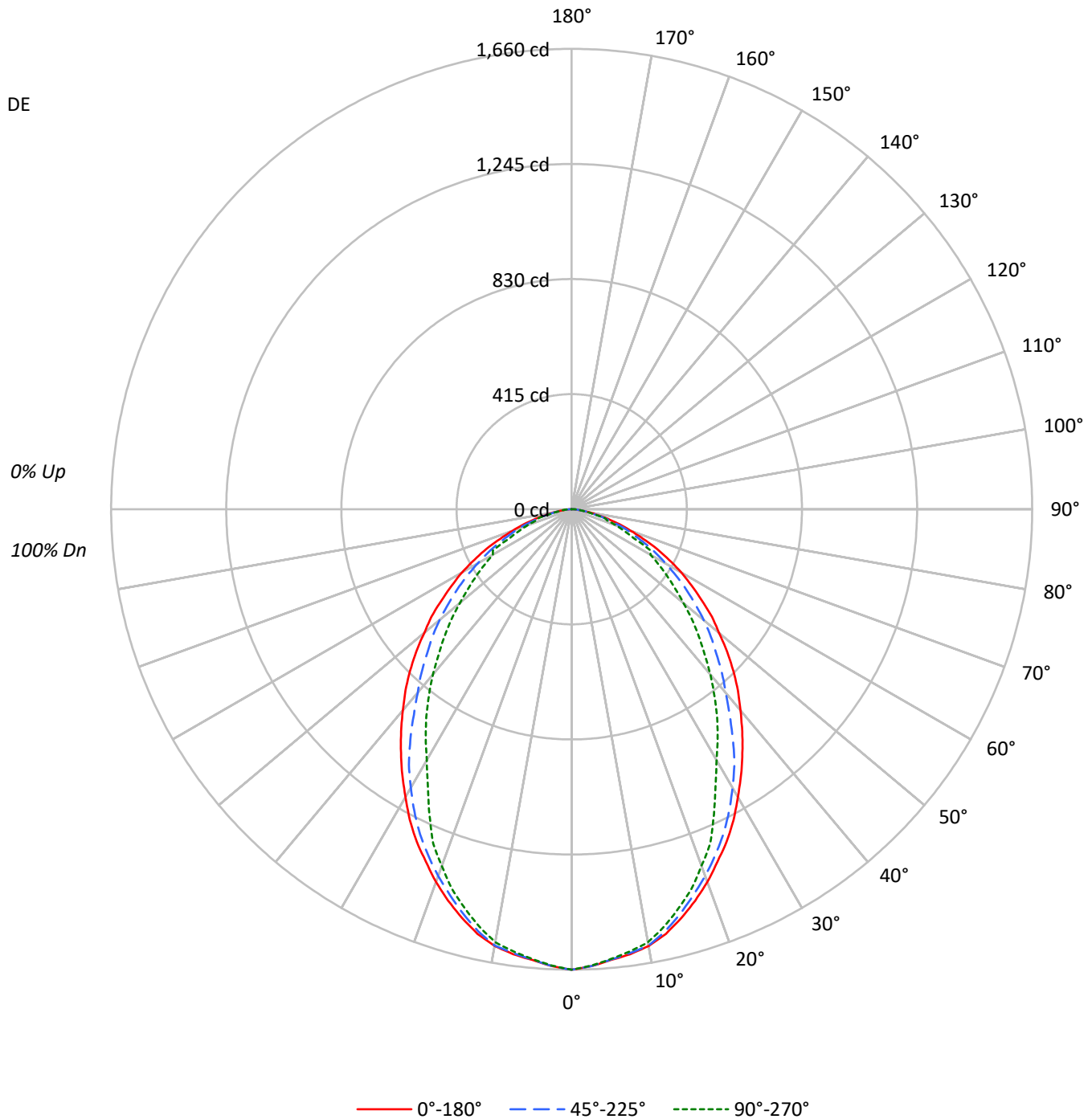
Lumens per Lamp: N/A
Luminaire Lumens: 3259.0 lumens
Efficiency: N/A
Efficacy: 69.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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	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°	4467	4467	4467
5°	4407	4401	4396
10°	4368	4363	4332
15°	4250	4208	4149
20°	4094	4029	3919
25°	3926	3841	3601
30°	3721	3602	3244
35°	3524	3329	3001
40°	3324	3034	2731
45°	3133	2805	2469
50°	2900	2603	2202
55°	2683	2359	1972
60°	2458	2107	1766
65°	2163	1845	1564
70°	1782	1616	1329
75°	1417	1237	1297
80°	951	893	832
85°	593	710	831

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3133 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.5	4.7
10°-20°	424.1	13.0
20°-30°	587.1	18.0
30°-40°	626.1	19.2
40°-50°	571.2	17.5
50°-60°	447.4	13.7
60°-70°	291.6	8.9
70°-80°	129.2	4.0
80°-90°	27.7	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°	1165.8	35.8
0°-40°	1791.8	55.0
0°-60°	2810.4	86.2
0°-90°	3259.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3259.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1660	1660	1660	1660	1660	
5°	1631	1629	1629	1628	1628	155
15°	1526	1526	1510	1495	1489	429
25°	1322	1315	1294	1248	1213	607
35°	1073	1065	1013	937	914	671
45°	823	806	737	676	649	634
55°	572	555	503	443	420	513
65°	340	320	290	296	246	335
75°	136	127	119	113	125	146
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°	1660.1	1660.1	1660.1	1660.1	1660.1
2.5°	1648.6	1648.6	1648.6	1646.7	1646.7
5°	1631.3	1629.4	1629.4	1627.5	1627.5
7.5°	1617.9	1615.9	1614.0	1612.1	1608.3
10°	1598.7	1598.7	1596.8	1587.2	1585.2
12.5°	1568.0	1566.1	1558.4	1544.9	1541.1
15°	1525.7	1525.7	1510.4	1495.0	1489.3
17.5°	1479.7	1477.8	1458.6	1443.2	1435.5
20°	1429.8	1426.0	1406.8	1381.8	1368.4
22.5°	1374.1	1374.1	1351.1	1318.5	1305.0
25°	1322.3	1314.6	1293.5	1247.5	1212.9
27.5°	1262.8	1251.3	1228.3	1163.0	1122.7
30°	1197.6	1191.8	1159.2	1074.7	1044.0
32.5°	1136.2	1126.6	1092.0	1003.7	978.8
35°	1072.8	1065.1	1013.3	936.6	913.5
37.5°	1009.5	999.9	934.6	873.2	844.4
40°	946.2	934.6	863.6	808.0	777.3
42.5°	886.7	871.3	802.2	742.7	708.2
45°	823.3	806.1	737.0	675.6	648.7
47.5°	760.0	744.6	681.3	618.0	587.3
50°	692.8	679.4	621.8	558.5	525.9
52.5°	637.2	616.1	560.4	497.1	470.2
55°	571.9	554.6	502.8	443.3	420.3
57.5°	512.4	495.1	447.2	391.5	372.3
60°	456.8	431.8	391.5	343.5	328.2
62.5°	395.4	376.2	341.6	301.3	320.5
65°	339.7	320.5	289.8	295.6	245.7
67.5°	278.3	268.7	241.8	214.9	207.3
70°	226.5	214.9	205.4	176.6	168.9
72.5°	180.4	168.9	155.5	140.1	134.3
75°	136.3	126.7	119.0	113.2	124.7
77.5°	94.0	90.2	84.4	78.7	76.8
80°	61.4	59.5	57.6	55.7	53.7
82.5°	36.5	36.5	36.5	36.5	36.5
85°	19.2	21.1	23.0	24.9	26.9
87.5°	11.5	11.5	13.4	15.4	17.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)