

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: P561665

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-81-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561665
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-50-UNV-81-84-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

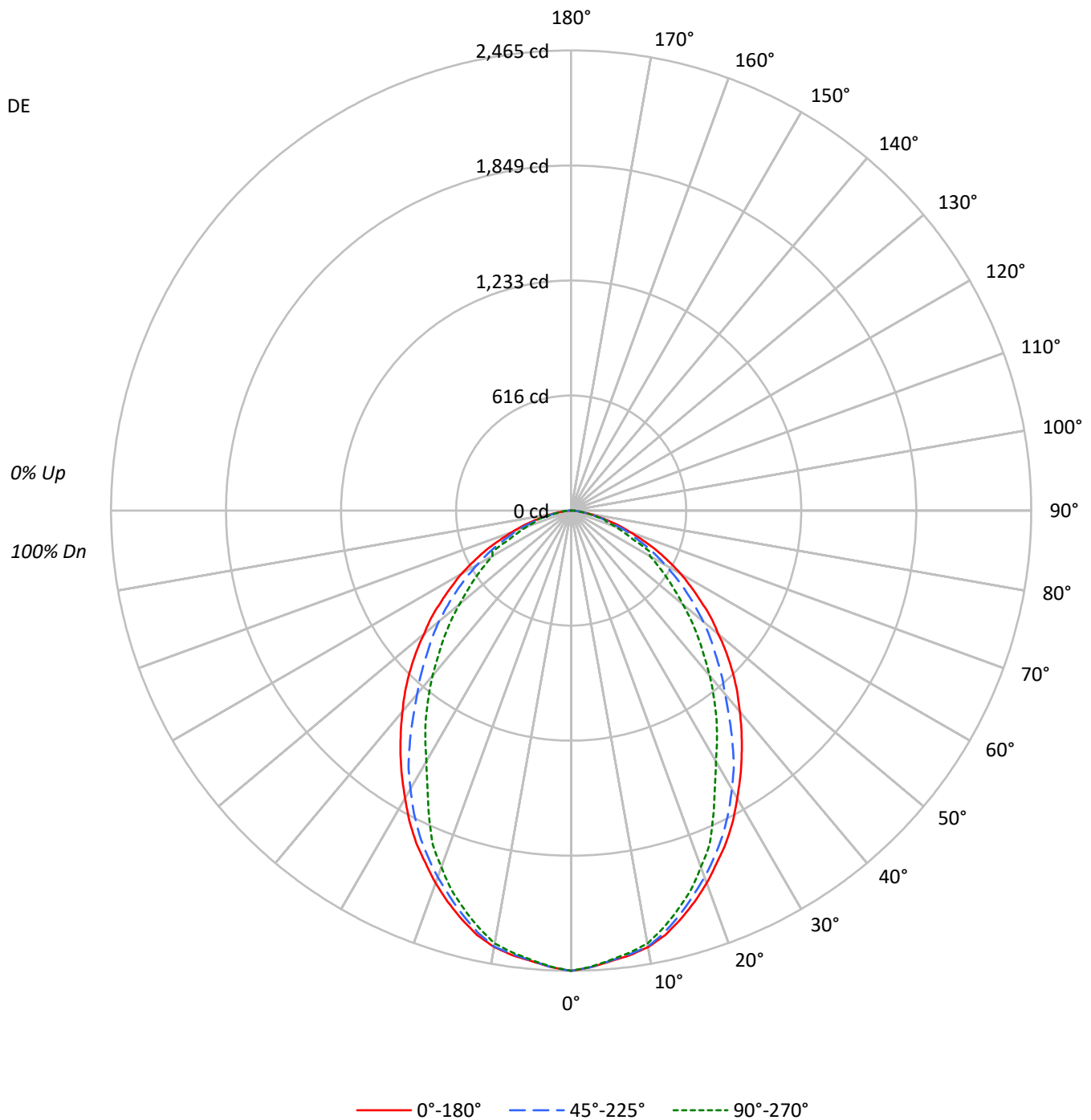
Lumens per Lamp: N/A
Luminaire Lumens: 4840.0 lumens
Efficiency: N/A
Efficacy: 103.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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



TEST NUMBER: P561665
CATALOG NUMBER: FSR-12-4-LD4-2LO-50-UNV-81-84-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P561665

CATALOG NUMBER: FSR-12-4-LD4-2LO-50-UNV-81-84-EDD

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°	6634	6634	6634
5°	6544	6537	6529
10°	6487	6480	6433
15°	6313	6249	6162
20°	6081	5983	5820
25°	5831	5704	5348
30°	5526	5349	4818
35°	5234	4944	4457
40°	4936	4506	4055
45°	4653	4165	3666
50°	4307	3866	3270
55°	3985	3504	2928
60°	3651	3129	2623
65°	3212	2741	2323
70°	2646	2400	1973
75°	2104	1837	1927
80°	1413	1325	1237
85°	880	1056	1232

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4653 cd/sqm



TEST NUMBER: P561665

CATALOG NUMBER: FSR-12-4-LD4-2LO-50-UNV-81-84-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	229.5	4.7
10°-20°	629.8	13.0
20°-30°	872.0	18.0
30°-40°	929.8	19.2
40°-50°	848.2	17.5
50°-60°	664.5	13.7
60°-70°	433.1	8.9
70°-80°	191.9	4.0
80°-90°	41.2	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°	1731.3	35.8
0°-40°	2661.1	55.0
0°-60°	4173.8	86.2
0°-90°	4840.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4840.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2465	2465	2465	2465	2465	
5°	2423	2420	2420	2417	2417	230
15°	2266	2266	2243	2220	2212	637
25°	1964	1952	1921	1853	1801	902
35°	1593	1582	1505	1391	1357	996
45°	1223	1197	1094	1003	963	942
55°	849	824	747	658	624	762
65°	504	476	430	439	365	497
75°	202	188	177	168	185	217
85°	28	31	34	37	40	40
90°	0	0	0	0	0	



TEST NUMBER: P561665

CATALOG NUMBER: FSR-12-4-LD4-2LO-50-UNV-81-84-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2465.4	2465.4	2465.4	2465.4	2465.4
2.5°	2448.3	2448.3	2448.3	2445.5	2445.5
5°	2422.7	2419.8	2419.8	2417.0	2417.0
7.5°	2402.7	2399.9	2397.0	2394.2	2388.5
10°	2374.2	2374.2	2371.4	2357.1	2354.3
12.5°	2328.6	2325.8	2314.4	2294.4	2288.7
15°	2265.9	2265.9	2243.1	2220.3	2211.8
17.5°	2197.5	2194.7	2166.2	2143.4	2132.0
20°	2123.4	2117.7	2089.2	2052.2	2032.2
22.5°	2040.8	2040.8	2006.5	1958.1	1938.1
25°	1963.8	1952.4	1921.0	1852.6	1801.3
27.5°	1875.4	1858.3	1824.1	1727.2	1667.4
30°	1778.5	1770.0	1721.5	1596.1	1550.5
32.5°	1687.3	1673.1	1621.8	1490.7	1453.6
35°	1593.3	1581.9	1504.9	1390.9	1356.7
37.5°	1499.2	1485.0	1388.1	1296.8	1254.1
40°	1405.2	1388.1	1282.6	1199.9	1154.3
42.5°	1316.8	1294.0	1191.4	1103.0	1051.7
45°	1222.7	1197.1	1094.5	1003.3	963.4
47.5°	1128.7	1105.9	1011.8	917.8	872.2
50°	1028.9	1009.0	923.5	829.4	781.0
52.5°	946.3	914.9	832.3	738.2	698.3
55°	849.4	823.7	746.8	658.4	624.2
57.5°	761.0	735.4	664.1	581.4	552.9
60°	678.3	641.3	581.4	510.2	487.4
62.5°	587.1	558.6	507.3	447.5	476.0
65°	504.5	476.0	430.4	438.9	364.8
67.5°	413.3	399.0	359.1	319.2	307.8
70°	336.3	319.2	305.0	262.2	250.8
72.5°	267.9	250.8	230.9	208.1	199.5
75°	202.4	188.1	176.7	168.2	185.3
77.5°	139.7	134.0	125.4	116.9	114.0
80°	91.2	88.4	85.5	82.7	79.8
82.5°	54.2	54.2	54.2	54.2	54.2
85°	28.5	31.4	34.2	37.1	39.9
87.5°	17.1	17.1	20.0	22.8	25.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)