

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: P560906

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560906
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-81-94-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3467.0 lumens
Efficiency: N/A
Efficacy: 80.3 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

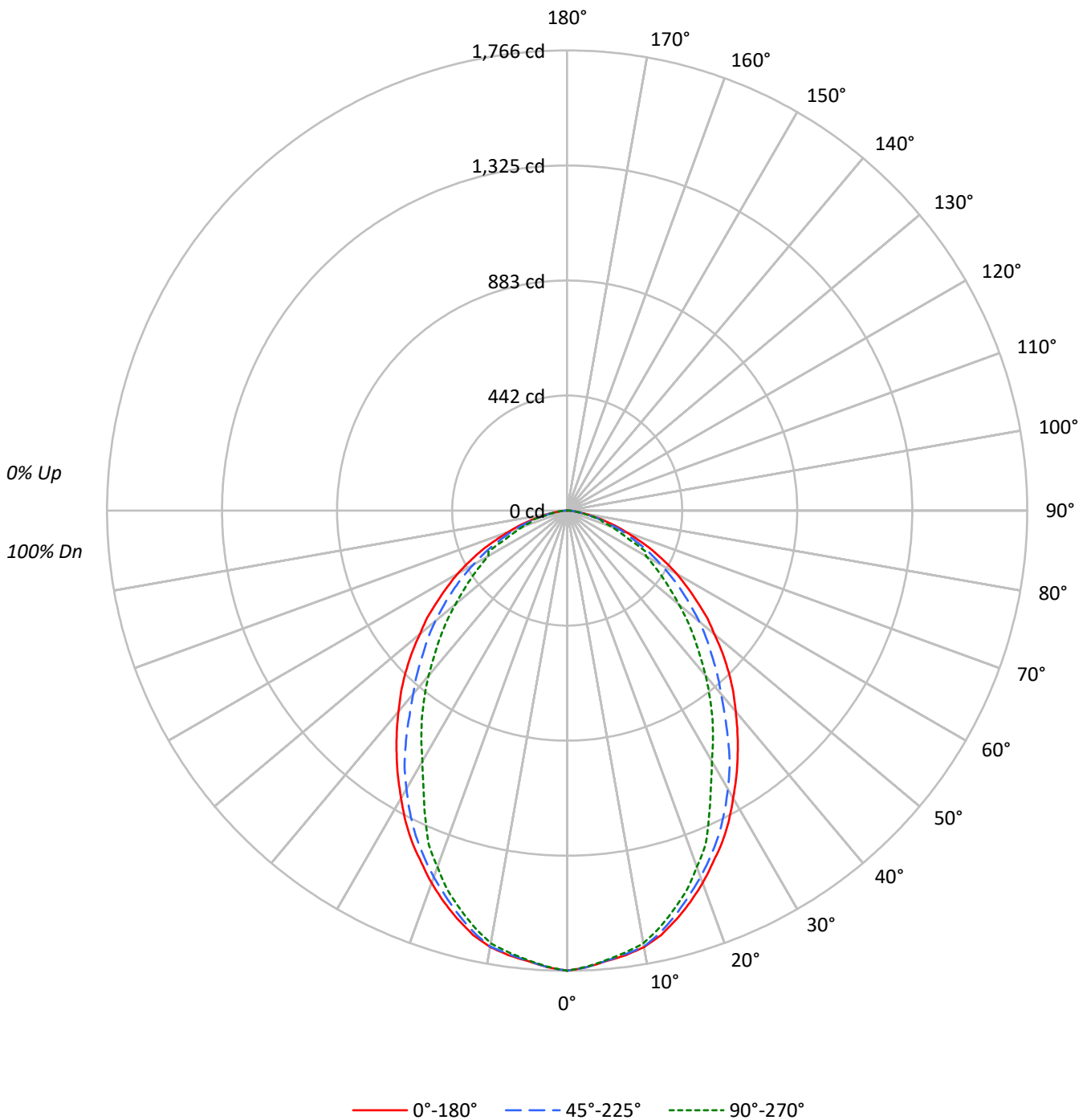
Input Watts (W): 43.2
Input Voltage (V):
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P560906

CATALOG NUMBER: FSR-12-4-LD4-1HI-50-UNV-81-94-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P560906

CATALOG NUMBER: FSR-12-4-LD4-1HI-50-UNV-81-94-EDD-90

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°	4752	4752	4752
5°	4688	4682	4677
10°	4647	4642	4608
15°	4522	4476	4414
20°	4356	4285	4169
25°	4177	4086	3831
30°	3959	3832	3451
35°	3749	3541	3192
40°	3536	3228	2905
45°	3333	2984	2626
50°	3085	2769	2342
55°	2854	2510	2098
60°	2615	2242	1879
65°	2301	1963	1664
70°	1895	1719	1414
75°	1508	1316	1380
80°	1012	950	886
85°	630	756	883

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3333 cd/sqm



TEST NUMBER: P560906

CATALOG NUMBER: FSR-12-4-LD4-1HI-50-UNV-81-94-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.4	4.7
10°-20°	451.2	13.0
20°-30°	624.6	18.0
30°-40°	666.0	19.2
40°-50°	607.6	17.5
50°-60°	476.0	13.7
60°-70°	310.2	8.9
70°-80°	137.5	4.0
80°-90°	29.5	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°	1240.2	35.8
0°-40°	1906.2	55.0
0°-60°	2989.8	86.2
0°-90°	3467.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3467.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1766	1766	1766	1766	1766	
5°	1735	1733	1733	1731	1731	165
15°	1623	1623	1607	1590	1584	456
25°	1407	1398	1376	1327	1290	646
35°	1141	1133	1078	996	972	714
45°	876	858	784	719	690	675
55°	608	590	535	472	447	546
65°	361	341	308	314	261	356
75°	145	135	127	120	133	155
85°	20	22	24	26	29	28
90°	0	0	0	0	0	



TEST NUMBER: P560906

CATALOG NUMBER: FSR-12-4-LD4-1HI-50-UNV-81-94-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1766.0	1766.0	1766.0	1766.0	1766.0
2.5°	1753.8	1753.8	1753.8	1751.8	1751.8
5°	1735.4	1733.4	1733.4	1731.3	1731.3
7.5°	1721.1	1719.1	1717.0	1715.0	1710.9
10°	1700.7	1700.7	1698.7	1688.5	1686.4
12.5°	1668.0	1666.0	1657.8	1643.5	1639.5
15°	1623.1	1623.1	1606.8	1590.5	1584.3
17.5°	1574.1	1572.1	1551.7	1535.3	1527.2
20°	1521.0	1517.0	1496.5	1470.0	1455.7
22.5°	1461.8	1461.8	1437.3	1402.6	1388.3
25°	1406.7	1398.5	1376.1	1327.1	1290.3
27.5°	1343.4	1331.2	1306.7	1237.3	1194.4
30°	1274.0	1267.9	1233.2	1143.3	1110.7
32.5°	1208.7	1198.5	1161.7	1067.8	1041.3
35°	1141.3	1133.1	1078.0	996.3	971.8
37.5°	1073.9	1063.7	994.3	929.0	898.3
40°	1006.5	994.3	918.8	859.5	826.9
42.5°	943.3	926.9	853.4	790.1	753.4
45°	875.9	857.5	784.0	718.7	690.1
47.5°	808.5	792.2	724.8	657.4	624.8
50°	737.0	722.8	661.5	594.1	559.4
52.5°	677.8	655.4	596.2	528.8	500.2
55°	608.4	590.0	534.9	471.6	447.1
57.5°	545.1	526.8	475.7	416.5	396.1
60°	485.9	459.4	416.5	365.5	349.1
62.5°	420.6	400.2	363.4	320.5	341.0
65°	361.4	341.0	308.3	314.4	261.3
67.5°	296.0	285.8	257.3	228.7	220.5
70°	240.9	228.7	218.5	187.8	179.7
72.5°	191.9	179.7	165.4	149.0	142.9
75°	145.0	134.8	126.6	120.5	132.7
77.5°	100.0	96.0	89.8	83.7	81.7
80°	65.3	63.3	61.3	59.2	57.2
82.5°	38.8	38.8	38.8	38.8	38.8
85°	20.4	22.5	24.5	26.5	28.6
87.5°	12.3	12.3	14.3	16.3	18.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)