

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: P560811

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560811
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-35-UNV-93-94-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

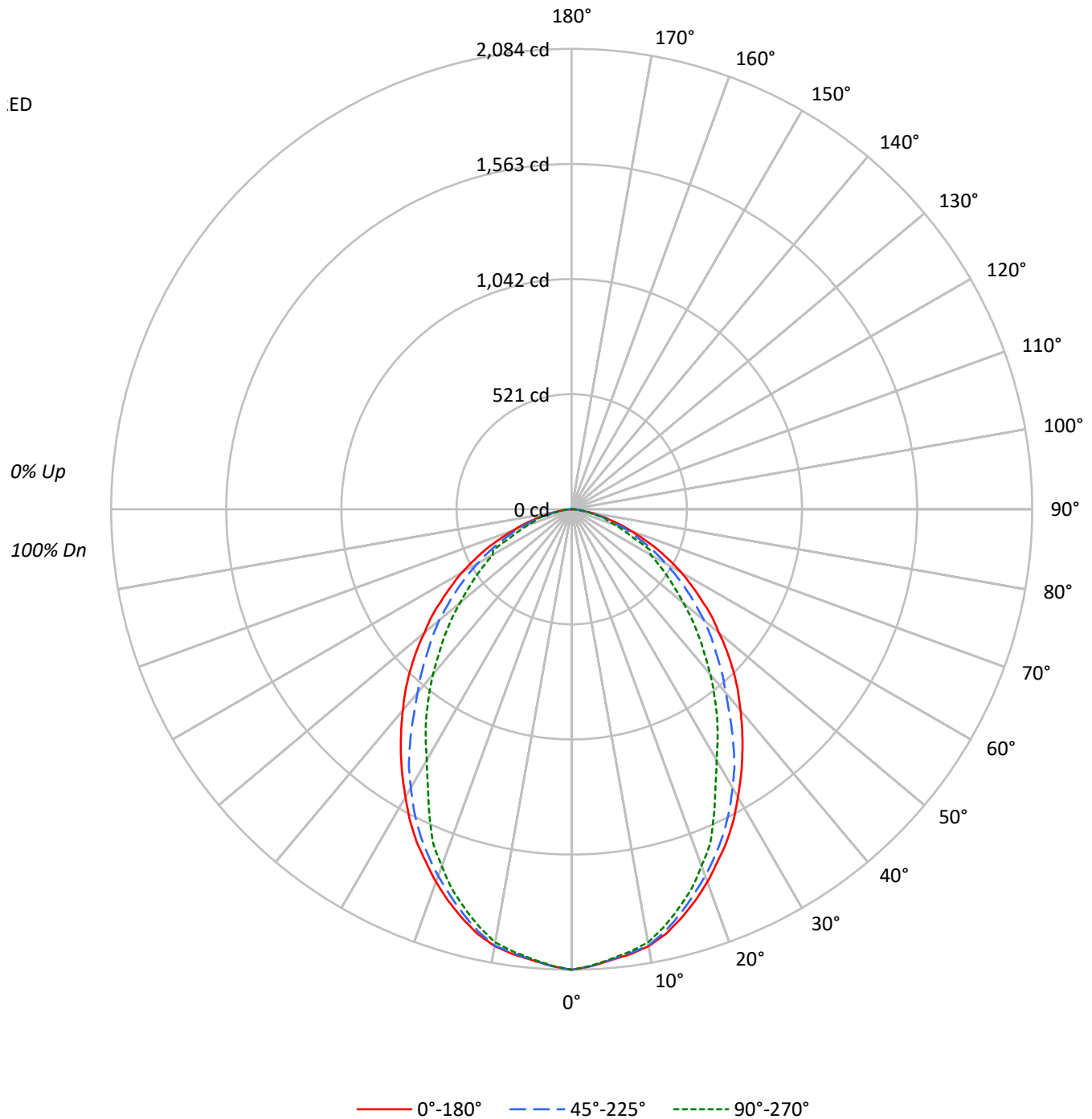
Lumens per Lamp: N/A
Luminaire Lumens: 4092.0 lumens
Efficiency: N/A
Efficacy: 94.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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



TEST NUMBER: P560811
CATALOG NUMBER: FSR-12-4-LD4-1HI-35-UNV-93-94-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P560811

CATALOG NUMBER: FSR-12-4-LD4-1HI-35-UNV-93-94-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	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°	5609	5609	5609
5°	5533	5527	5520
10°	5485	5478	5439
15°	5337	5283	5209
20°	5141	5058	4920
25°	4930	4823	4522
30°	4672	4523	4073
35°	4425	4180	3768
40°	4173	3809	3428
45°	3934	3521	3100
50°	3642	3269	2764
55°	3369	2962	2476
60°	3087	2646	2218
65°	2716	2317	1964
70°	2237	2028	1669
75°	1779	1553	1628
80°	1195	1120	1046
85°	744	892	1041

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3934 cd/sqm



TEST NUMBER: P560811

CATALOG NUMBER: FSR-12-4-LD4-1HI-35-UNV-93-94-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	194.0	4.7
10°-20°	532.5	13.0
20°-30°	737.2	18.0
30°-40°	786.1	19.2
40°-50°	717.1	17.5
50°-60°	561.8	13.7
60°-70°	366.2	8.9
70°-80°	162.2	4.0
80°-90°	34.8	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°	1463.7	35.8
0°-40°	2249.8	55.0
0°-60°	3528.8	86.2
0°-90°	4092.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4092.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2084	2084	2084	2084	2084	
5°	2048	2046	2046	2043	2043	194
15°	1916	1916	1896	1877	1870	539
25°	1660	1651	1624	1566	1523	762
35°	1347	1337	1272	1176	1147	842
45°	1034	1012	925	848	814	796
55°	718	696	631	557	528	644
65°	426	402	364	371	308	420
75°	171	159	149	142	157	183
85°	24	26	29	31	34	33
90°	0	0	0	0	0	



TEST NUMBER: P560811

CATALOG NUMBER: FSR-12-4-LD4-1HI-35-UNV-93-94-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2084.4	2084.4	2084.4	2084.4	2084.4
2.5°	2070.0	2070.0	2070.0	2067.5	2067.5
5°	2048.3	2045.9	2045.9	2043.4	2043.4
7.5°	2031.4	2029.0	2026.6	2024.2	2019.3
10°	2007.3	2007.3	2004.9	1992.8	1990.4
12.5°	1968.7	1966.3	1956.7	1939.8	1935.0
15°	1915.7	1915.7	1896.5	1877.2	1869.9
17.5°	1857.9	1855.5	1831.4	1812.1	1802.5
20°	1795.2	1790.4	1766.3	1735.0	1718.1
22.5°	1725.4	1725.4	1696.4	1655.5	1638.6
25°	1660.3	1650.7	1624.2	1566.3	1522.9
27.5°	1585.6	1571.1	1542.2	1460.3	1409.7
30°	1503.7	1496.4	1455.5	1349.4	1310.9
32.5°	1426.6	1414.5	1371.1	1260.3	1229.0
35°	1347.0	1337.4	1272.3	1175.9	1147.0
37.5°	1267.5	1255.5	1173.5	1096.4	1060.3
40°	1188.0	1173.5	1084.4	1014.5	975.9
42.5°	1113.3	1094.0	1007.3	932.6	889.2
45°	1033.8	1012.1	925.3	848.2	814.5
47.5°	954.3	935.0	855.5	775.9	737.4
50°	869.9	853.0	780.8	701.2	660.3
52.5°	800.0	773.5	703.6	624.1	590.4
55°	718.1	696.4	631.3	556.6	527.7
57.5°	643.4	621.7	561.5	491.6	467.5
60°	573.5	542.2	491.6	431.3	412.1
62.5°	496.4	472.3	428.9	378.3	402.4
65°	426.5	402.4	363.9	371.1	308.4
67.5°	349.4	337.4	303.6	269.9	260.3
70°	284.3	269.9	257.8	221.7	212.1
72.5°	226.5	212.1	195.2	175.9	168.7
75°	171.1	159.0	149.4	142.2	156.6
77.5°	118.1	113.3	106.0	98.8	96.4
80°	77.1	74.7	72.3	69.9	67.5
82.5°	45.8	45.8	45.8	45.8	45.8
85°	24.1	26.5	28.9	31.3	33.7
87.5°	14.5	14.5	16.9	19.3	21.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)