

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: P561391

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-93-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561391
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-LD4-2HI-35-UNV-93-97-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

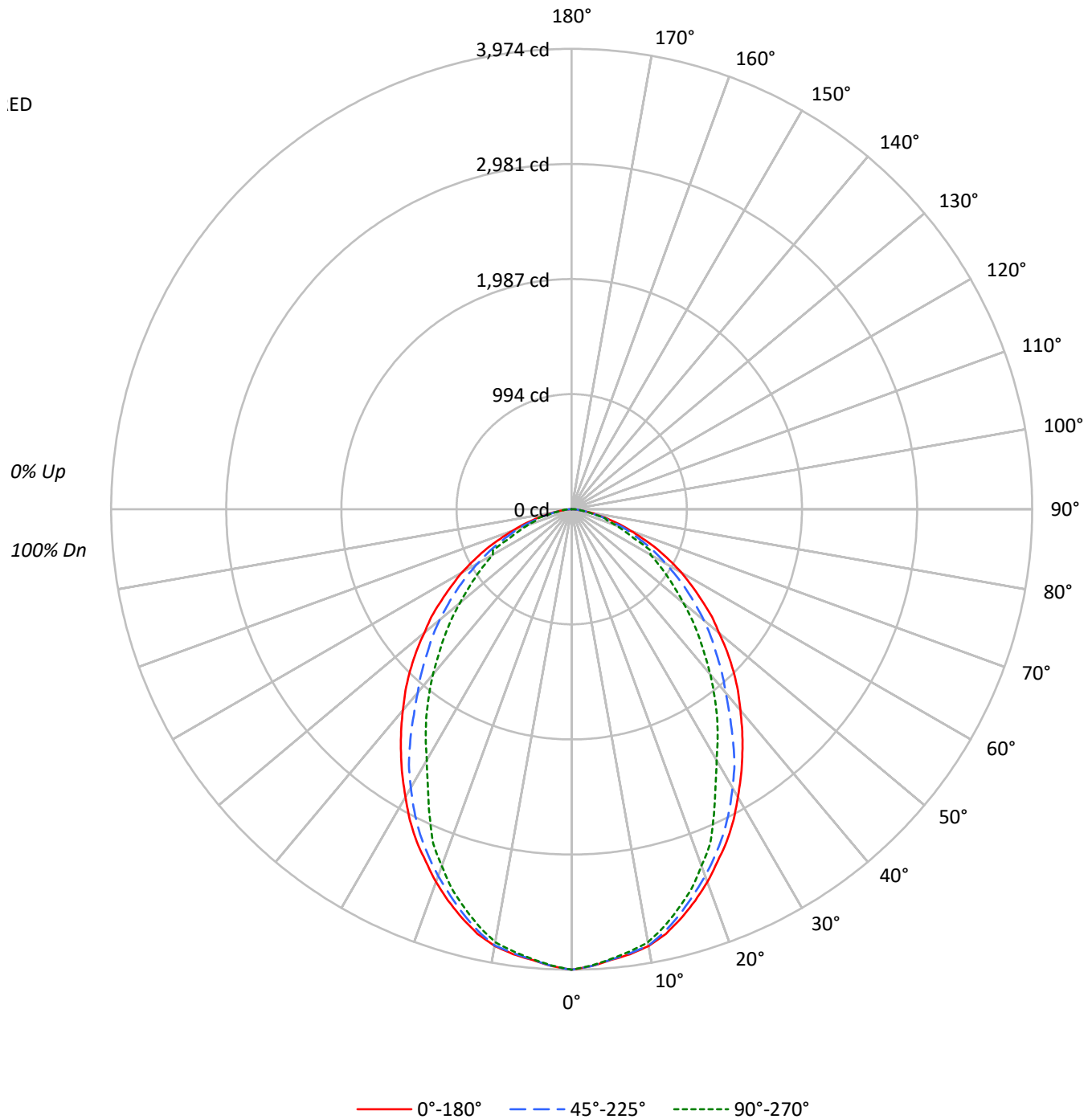
Lumens per Lamp: N/A
Luminaire Lumens: 7802.0 lumens
Efficiency: N/A
Efficacy: 90.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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: P561391
CATALOG NUMBER: FSR-12-4-LD4-2HI-35-UNV-93-97-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P561391

CATALOG NUMBER: FSR-12-4-LD4-2HI-35-UNV-93-97-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	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°	10694	10694	10694
5°	10549	10537	10524
10°	10458	10445	10370
15°	10176	10074	9933
20°	9802	9644	9381
25°	9399	9195	8622
30°	8909	8623	7766
35°	8437	7969	7184
40°	7957	7263	6537
45°	7501	6714	5910
50°	6944	6232	5270
55°	6424	5648	4721
60°	5885	5045	4229
65°	5178	4418	3745
70°	4265	3868	3181
75°	3392	2962	3105
80°	2278	2135	1993
85°	1417	1701	1985

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7501 cd/sqm



TEST NUMBER: P561391

CATALOG NUMBER: FSR-12-4-LD4-2HI-35-UNV-93-97-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	369.9	4.7
10°-20°	1015.3	13.0
20°-30°	1405.6	18.0
30°-40°	1498.8	19.2
40°-50°	1367.3	17.5
50°-60°	1071.2	13.7
60°-70°	698.2	8.9
70°-80°	309.3	4.0
80°-90°	66.4	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°	2790.8	35.8
0°-40°	4289.6	55.0
0°-60°	6728.1	86.2
0°-90°	7802.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7802.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3974	3974	3974	3974	3974	
5°	3905	3901	3901	3896	3896	371
15°	3653	3653	3616	3579	3565	1027
25°	3166	3147	3097	2986	2904	1453
35°	2568	2550	2426	2242	2187	1606
45°	1971	1930	1764	1617	1553	1518
55°	1369	1328	1204	1061	1006	1228
65°	813	767	694	708	588	801
75°	326	303	285	271	299	350
85°	46	50	55	60	64	64
90°	0	0	0	0	0	



TEST NUMBER: P561391

CATALOG NUMBER: FSR-12-4-LD4-2HI-35-UNV-93-97-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3974.2	3974.2	3974.2	3974.2	3974.2
2.5°	3946.7	3946.7	3946.7	3942.1	3942.1
5°	3905.3	3900.7	3900.7	3896.1	3896.1
7.5°	3873.2	3868.6	3864.0	3859.4	3850.2
10°	3827.2	3827.2	3822.6	3799.6	3795.0
12.5°	3753.7	3749.1	3730.7	3698.6	3689.4
15°	3652.6	3652.6	3615.9	3579.1	3565.3
17.5°	3542.4	3537.8	3491.8	3455.1	3436.7
20°	3422.9	3413.7	3367.8	3308.0	3275.9
22.5°	3289.7	3289.7	3234.5	3156.4	3124.3
25°	3165.6	3147.2	3096.7	2986.4	2903.7
27.5°	3023.2	2995.6	2940.5	2784.3	2687.8
30°	2867.0	2853.2	2775.1	2572.9	2499.4
32.5°	2719.9	2697.0	2614.3	2402.9	2343.2
35°	2568.3	2549.9	2425.9	2242.1	2187.0
37.5°	2416.7	2393.7	2237.5	2090.5	2021.6
40°	2265.1	2237.5	2067.5	1934.3	1860.8
42.5°	2122.7	2085.9	1920.5	1778.1	1695.4
45°	1971.0	1929.7	1764.3	1617.3	1552.9
47.5°	1819.4	1782.7	1631.0	1479.4	1405.9
50°	1658.6	1626.4	1488.6	1337.0	1258.9
52.5°	1525.4	1474.8	1341.6	1190.0	1125.7
55°	1369.2	1327.8	1203.8	1061.3	1006.2
57.5°	1226.7	1185.4	1070.5	937.3	891.3
60°	1093.5	1033.8	937.3	822.4	785.7
62.5°	946.5	900.5	817.8	721.3	767.3
65°	813.2	767.3	693.8	707.6	588.1
67.5°	666.2	643.2	578.9	514.6	496.2
70°	542.1	514.6	491.6	422.7	404.3
72.5°	431.9	404.3	372.2	335.4	321.6
75°	326.2	303.2	284.9	271.1	298.6
77.5°	225.1	215.9	202.2	188.4	183.8
80°	147.0	142.4	137.8	133.2	128.6
82.5°	87.3	87.3	87.3	87.3	87.3
85°	45.9	50.5	55.1	59.7	64.3
87.5°	27.6	27.6	32.2	36.8	41.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)