

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: P560823

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-80-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560823
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-40-UNV-80-87-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRON
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

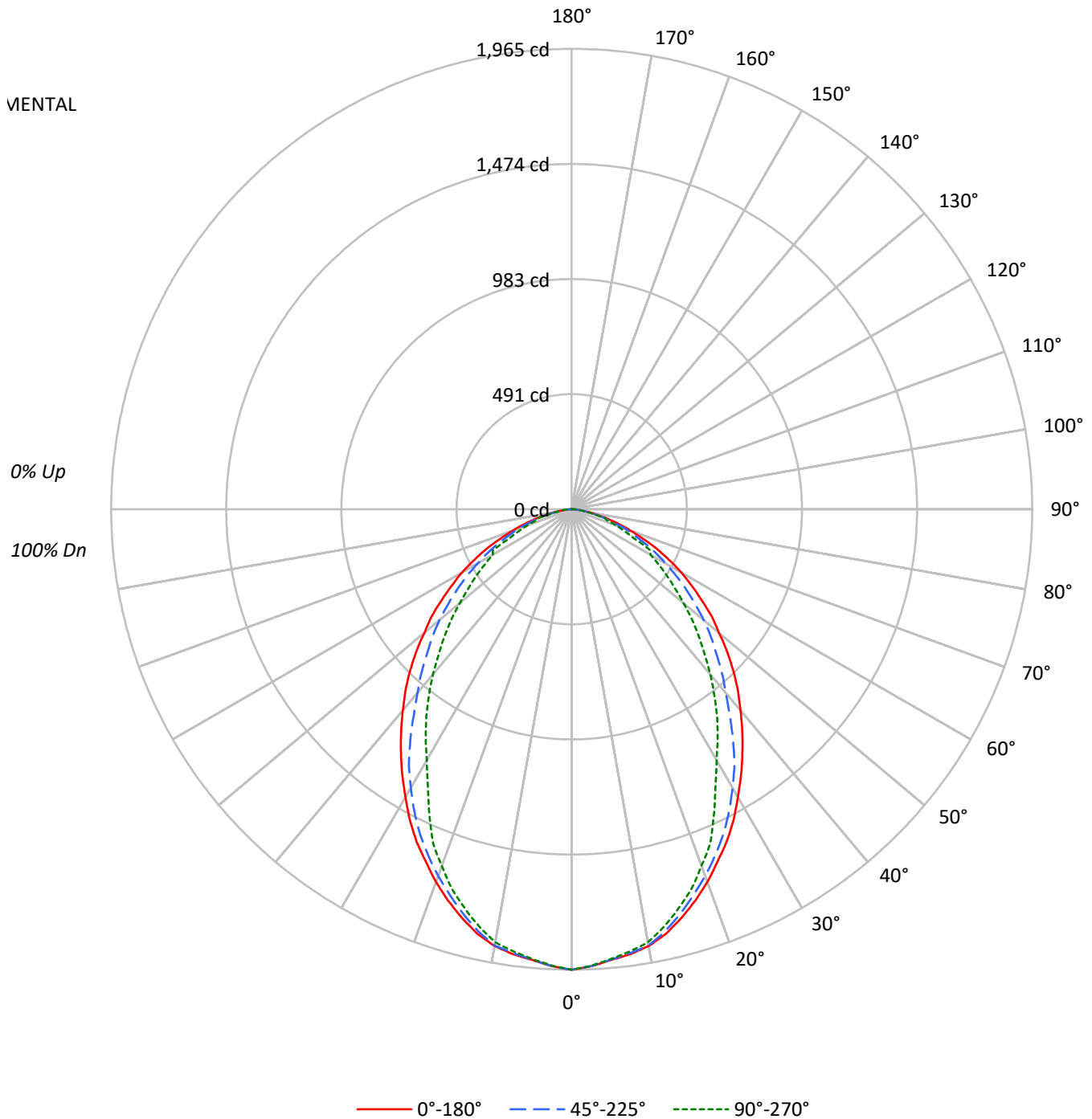
Lumens per Lamp: N/A
Luminaire Lumens: 3858.0 lumens
Efficiency: N/A
Efficacy: 89.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
Input Voltage (V):
Input Current (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	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°	5288	5288	5288
5°	5216	5210	5204
10°	5171	5165	5128
15°	5032	4981	4912
20°	4847	4769	4639
25°	4648	4547	4263
30°	4405	4264	3840
35°	4172	3941	3552
40°	3935	3592	3232
45°	3709	3320	2922
50°	3434	3082	2606
55°	3176	2792	2335
60°	2910	2495	2091
65°	2560	2185	1852
70°	2109	1913	1573
75°	1677	1465	1536
80°	1127	1057	986
85°	701	843	982

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3709 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.9	4.7
10°-20°	502.1	13.0
20°-30°	695.1	18.0
30°-40°	741.1	19.2
40°-50°	676.1	17.5
50°-60°	529.7	13.7
60°-70°	345.2	8.9
70°-80°	152.9	4.0
80°-90°	32.8	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°	1380.0	35.8
0°-40°	2121.2	55.0
0°-60°	3327.0	86.2
0°-90°	3858.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3858.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1965	1965	1965	1965	1965	
5°	1931	1929	1929	1927	1927	183
15°	1806	1806	1788	1770	1763	508
25°	1565	1556	1531	1477	1436	719
35°	1270	1261	1200	1109	1081	794
45°	975	954	872	800	768	751
55°	677	657	595	525	498	607
65°	402	379	343	350	291	396
75°	161	150	141	134	148	173
85°	23	25	27	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1965.2	1965.2	1965.2	1965.2	1965.2
2.5°	1951.6	1951.6	1951.6	1949.3	1949.3
5°	1931.1	1928.9	1928.9	1926.6	1926.6
7.5°	1915.2	1913.0	1910.7	1908.4	1903.9
10°	1892.5	1892.5	1890.2	1878.9	1876.6
12.5°	1856.2	1853.9	1844.8	1828.9	1824.4
15°	1806.2	1806.2	1788.0	1769.8	1763.0
17.5°	1751.7	1749.4	1726.7	1708.5	1699.4
20°	1692.6	1688.0	1665.3	1635.8	1619.9
22.5°	1626.7	1626.7	1599.4	1560.8	1544.9
25°	1565.4	1556.3	1531.3	1476.8	1435.9
27.5°	1494.9	1481.3	1454.0	1376.8	1329.1
30°	1417.7	1410.9	1372.2	1272.3	1235.9
32.5°	1345.0	1333.6	1292.7	1188.2	1158.7
35°	1270.0	1260.9	1199.6	1108.7	1081.4
37.5°	1195.0	1183.7	1106.4	1033.7	999.6
40°	1120.1	1106.4	1022.4	956.5	920.1
42.5°	1049.6	1031.5	949.7	879.2	838.3
45°	974.7	954.2	872.4	799.7	767.9
47.5°	899.7	881.5	806.5	731.6	695.2
50°	820.2	804.3	736.1	661.1	622.5
52.5°	754.3	729.3	663.4	588.4	556.6
55°	677.0	656.6	595.2	524.8	497.6
57.5°	606.6	586.2	529.4	463.5	440.8
60°	540.7	511.2	463.5	406.7	388.5
62.5°	468.0	445.3	404.4	356.7	379.4
65°	402.1	379.4	343.1	349.9	290.8
67.5°	329.4	318.1	286.3	254.5	245.4
70°	268.1	254.5	243.1	209.0	199.9
72.5°	213.6	199.9	184.0	165.9	159.0
75°	161.3	149.9	140.9	134.0	147.7
77.5°	111.3	106.8	100.0	93.1	90.9
80°	72.7	70.4	68.2	65.9	63.6
82.5°	43.2	43.2	43.2	43.2	43.2
85°	22.7	25.0	27.3	29.5	31.8
87.5°	13.6	13.6	15.9	18.2	20.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)