

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: P562402

Luminaire Tested: FSR-24-4-LD4-1STD-40-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562402
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-24-4-LD4-1STD-40-UNV-93-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3252.0 lumens
Efficiency: N/A
Efficacy: 97.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

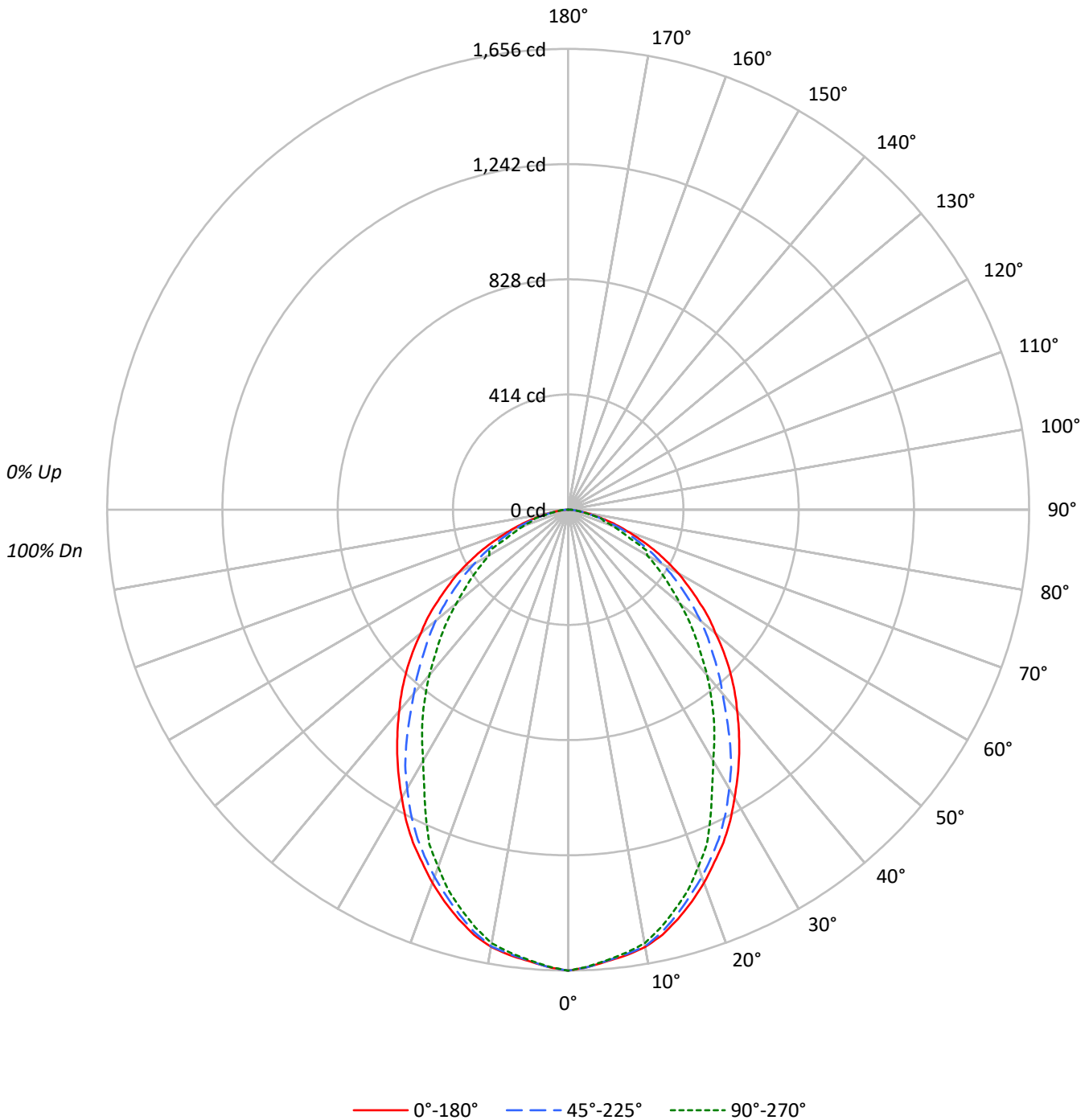
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2229	2229	2229
5°	2199	2196	2193
10°	2179	2177	2161
15°	2121	2099	2070
20°	2043	2010	1955
25°	1959	1916	1797
30°	1857	1797	1619
35°	1758	1661	1497
40°	1658	1514	1362
45°	1563	1399	1232
50°	1447	1299	1098
55°	1339	1177	984
60°	1227	1051	881
65°	1079	921	780
70°	889	806	663
75°	707	617	647
80°	475	446	415
85°	296	355	414

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1563 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.2	4.7
10°-20°	423.2	13.0
20°-30°	585.9	18.0
30°-40°	624.7	19.2
40°-50°	569.9	17.5
50°-60°	446.5	13.7
60°-70°	291.0	8.9
70°-80°	128.9	4.0
80°-90°	27.7	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°	1163.3	35.8
0°-40°	1788.0	55.0
0°-60°	2804.4	86.2
0°-90°	3252.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3252.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1656	1656	1656	1656	1656	
5°	1628	1626	1626	1624	1624	155
15°	1522	1522	1507	1492	1486	428
25°	1320	1312	1291	1245	1210	606
35°	1070	1063	1011	934	912	669
45°	822	804	735	674	647	633
55°	571	554	502	442	419	512
65°	339	320	289	295	245	334
75°	136	126	119	113	124	146
85°	19	21	23	25	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1656.5	1656.5	1656.5	1656.5	1656.5
2.5°	1645.0	1645.0	1645.0	1643.1	1643.1
5°	1627.8	1625.9	1625.9	1624.0	1624.0
7.5°	1614.4	1612.5	1610.6	1608.6	1604.8
10°	1595.2	1595.2	1593.3	1583.8	1581.8
12.5°	1564.6	1562.7	1555.0	1541.6	1537.8
15°	1522.5	1522.5	1507.2	1491.8	1486.1
17.5°	1476.5	1474.6	1455.4	1440.1	1432.5
20°	1426.7	1422.9	1403.7	1378.8	1365.4
22.5°	1371.2	1371.2	1348.2	1315.6	1302.2
25°	1319.5	1311.8	1290.7	1244.8	1210.3
27.5°	1260.1	1248.6	1225.6	1160.5	1120.3
30°	1195.0	1189.3	1156.7	1072.4	1041.8
32.5°	1133.7	1124.1	1089.7	1001.6	976.7
35°	1070.5	1062.9	1011.2	934.5	911.6
37.5°	1007.3	997.7	932.6	871.4	842.6
40°	944.1	932.6	861.8	806.2	775.6
42.5°	884.8	869.4	800.5	741.1	706.7
45°	821.6	804.3	735.4	674.1	647.3
47.5°	758.4	743.0	679.8	616.6	586.0
50°	691.3	677.9	620.5	557.3	524.7
52.5°	635.8	614.7	559.2	496.0	469.2
55°	570.7	553.5	501.7	442.4	419.4
57.5°	511.3	494.1	446.2	390.7	371.5
60°	455.8	430.9	390.7	342.8	327.5
62.5°	394.5	375.4	340.9	300.7	319.8
65°	339.0	319.8	289.2	294.9	245.1
67.5°	277.7	268.1	241.3	214.5	206.8
70°	226.0	214.5	204.9	176.2	168.5
72.5°	180.0	168.5	155.1	139.8	134.1
75°	136.0	126.4	118.7	113.0	124.5
77.5°	93.8	90.0	84.3	78.5	76.6
80°	61.3	59.4	57.5	55.5	53.6
82.5°	36.4	36.4	36.4	36.4	36.4
85°	19.2	21.1	23.0	24.9	26.8
87.5°	11.5	11.5	13.4	15.3	17.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)