

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: P563299

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-93-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563299  
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-LD4-3LO-35-UNV-93-85-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

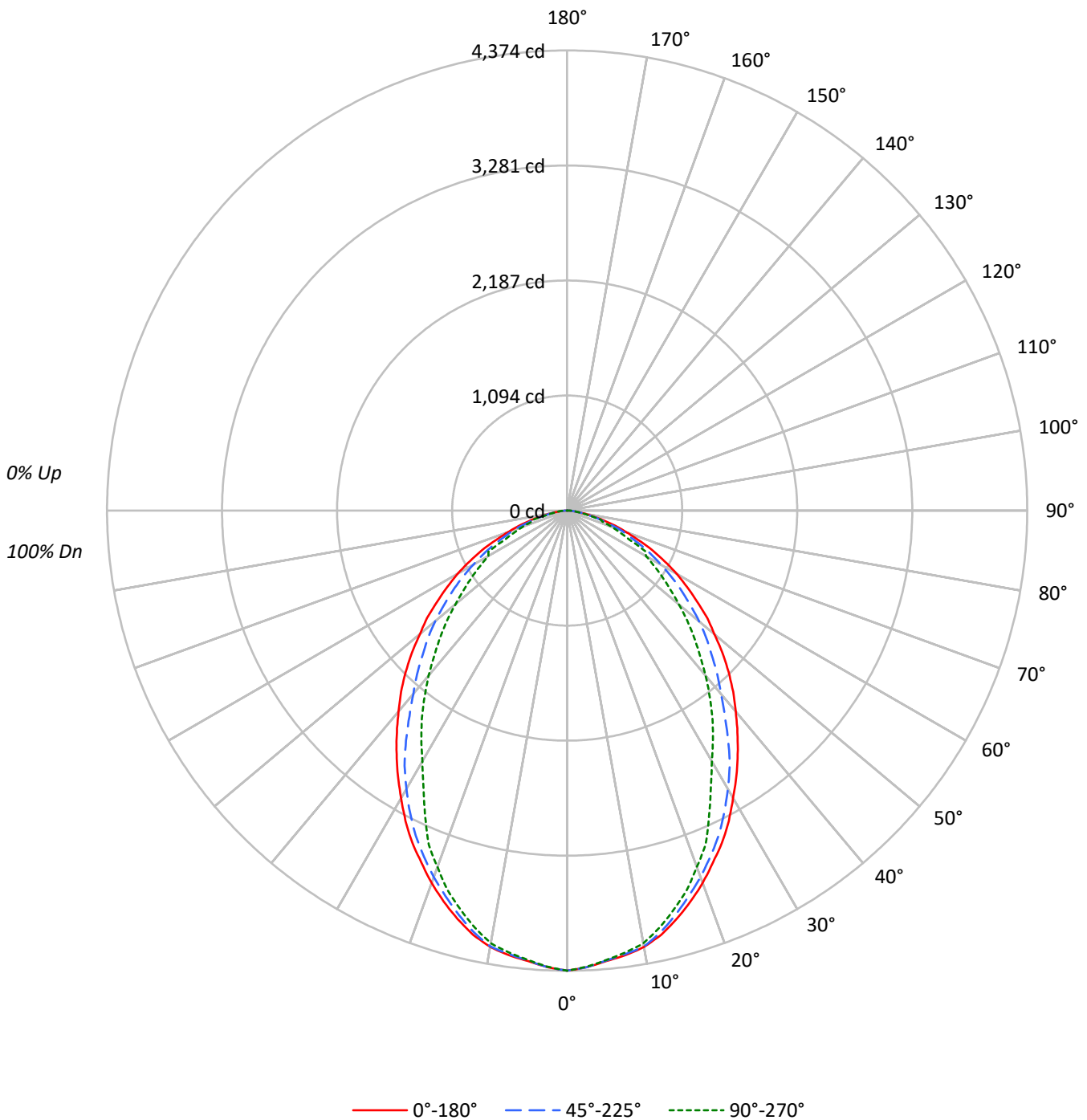
Lumens per Lamp: N/A  
Luminaire Lumens: 8586.0 lumens  
Efficiency: N/A  
Efficacy: 122.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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				
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°	5885	5885	5885
5°	5805	5798	5791
10°	5754	5747	5706
15°	5599	5543	5465
20°	5394	5307	5162
25°	5172	5059	4744
30°	4902	4745	4273
35°	4642	4385	3953
40°	4378	3996	3597
45°	4127	3694	3252
50°	3821	3429	2900
55°	3534	3107	2597
60°	3238	2776	2327
65°	2849	2431	2060
70°	2347	2128	1750
75°	1866	1630	1709
80°	1254	1175	1097
85°	781	937	1093

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4127 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	407.1	4.7
10°-20°	1117.3	13.0
20°-30°	1546.8	18.0
30°-40°	1649.4	19.2
40°-50°	1504.7	17.5
50°-60°	1178.8	13.7
60°-70°	768.3	8.9
70°-80°	340.4	4.0
80°-90°	73.1	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°	3071.3	35.8
0°-40°	4720.7	55.0
0°-60°	7404.2	86.2
0°-90°	8586.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8586.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4374	4374	4374	4374	4374	
5°	4298	4293	4293	4288	4288	408
15°	4020	4020	3979	3939	3924	1130
25°	3484	3464	3408	3286	3196	1599
35°	2826	2806	2670	2467	2407	1767
45°	2169	2124	1942	1780	1709	1671
55°	1507	1461	1325	1168	1107	1351
65°	895	844	764	779	647	882
75°	359	334	314	298	329	385
85°	51	56	61	66	71	70
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4373.6	4373.6	4373.6	4373.6	4373.6
2.5°	4343.3	4343.3	4343.3	4338.2	4338.2
5°	4297.8	4292.7	4292.7	4287.6	4287.6
7.5°	4262.4	4257.3	4252.2	4247.2	4237.1
10°	4211.8	4211.8	4206.7	4181.5	4176.4
12.5°	4130.9	4125.8	4105.6	4070.2	4060.1
15°	4019.7	4019.7	3979.2	3938.8	3923.6
17.5°	3898.3	3893.3	3842.7	3802.2	3782.0
20°	3766.9	3756.7	3706.2	3640.4	3605.1
22.5°	3620.2	3620.2	3559.5	3473.6	3438.2
25°	3483.7	3463.5	3407.9	3286.5	3195.5
27.5°	3327.0	3296.6	3236.0	3064.0	2957.9
30°	3155.1	3139.9	3053.9	2831.5	2750.6
32.5°	2993.3	2968.0	2877.0	2644.4	2578.7
35°	2826.4	2806.2	2669.7	2467.4	2406.7
37.5°	2659.5	2634.3	2462.4	2300.6	2224.7
40°	2492.7	2462.4	2275.3	2128.7	2047.8
42.5°	2336.0	2295.5	2113.5	1956.7	1865.7
45°	2169.1	2123.6	1941.6	1779.8	1709.0
47.5°	2002.2	1961.8	1794.9	1628.1	1547.2
50°	1825.3	1789.9	1638.2	1471.3	1385.4
52.5°	1678.7	1623.0	1476.4	1309.6	1238.8
55°	1506.7	1461.2	1324.7	1168.0	1107.3
57.5°	1350.0	1304.5	1178.1	1031.5	980.9
60°	1203.4	1137.6	1031.5	905.1	864.6
62.5°	1041.6	991.0	900.0	793.8	844.4
65°	894.9	844.4	763.5	778.7	647.2
67.5°	733.1	707.9	637.1	566.3	546.1
70°	596.6	566.3	541.0	465.2	444.9
72.5°	475.3	444.9	409.6	369.1	353.9
75°	359.0	333.7	313.5	298.3	328.7
77.5°	247.8	237.6	222.5	207.3	202.2
80°	161.8	156.7	151.7	146.6	141.6
82.5°	96.1	96.1	96.1	96.1	96.1
85°	50.6	55.6	60.7	65.7	70.8
87.5°	30.3	30.3	35.4	40.4	45.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)