

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: NEO-RAY

Report Number: P1055804

Luminaire Tested: S123R3DR-H775D927-X4F0-XX-UDD-FLL-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055804  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-H775D927-X4F0-XX-UDD-FLL-S  
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

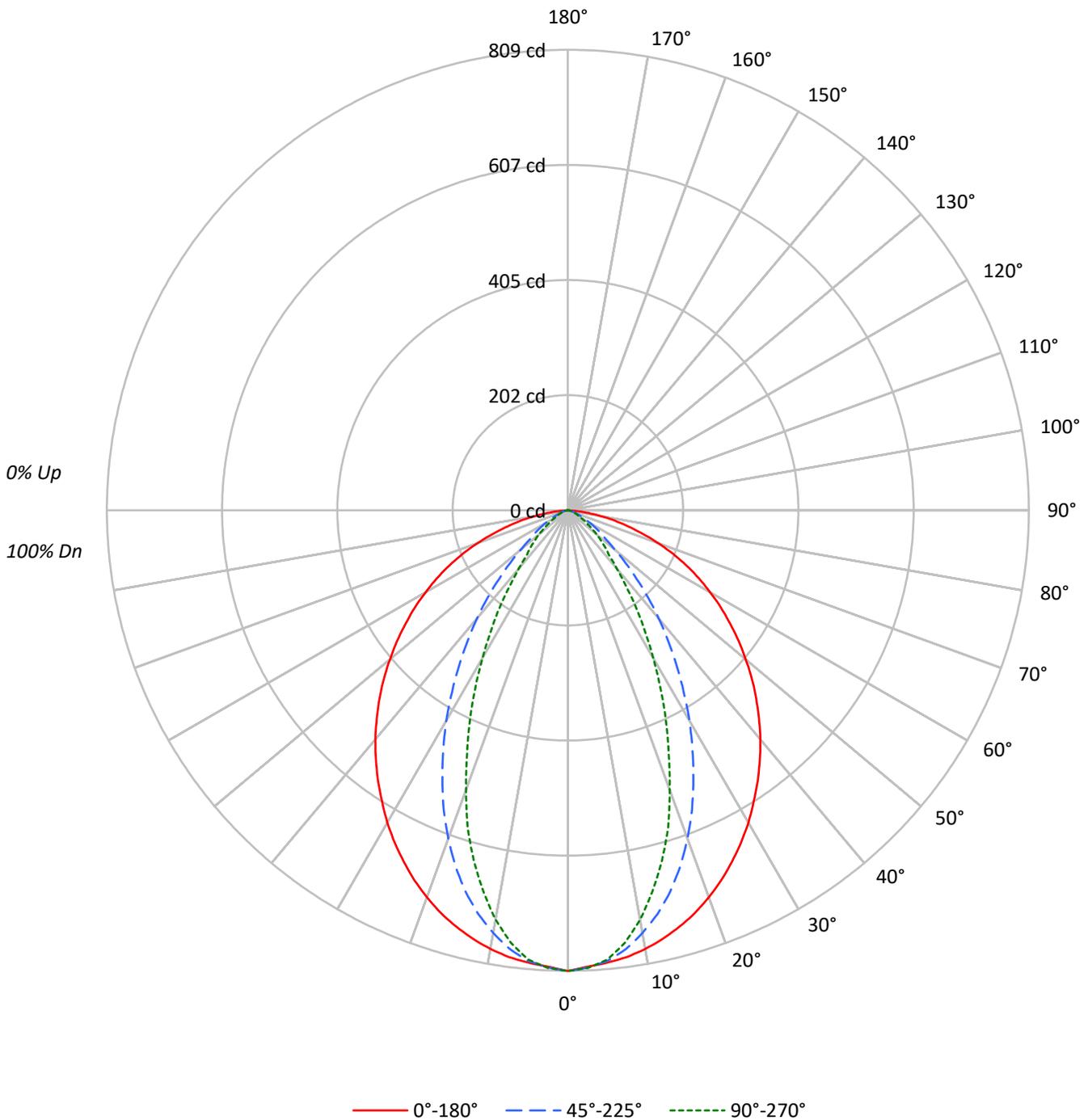
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1125.5 lumens  
Efficiency: N/A  
Efficacy: 47.3 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.8  
Input Voltage (V): 120  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39
10	62	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	9757	9757	9757
5°	9655	9618	9590
10°	9580	9232	8941
15°	9451	8656	7957
20°	9281	7874	6702
25°	9062	6929	5409
30°	8821	5938	4165
35°	8547	4900	3082
40°	8271	3900	2101
45°	7966	2917	1582
50°	7639	2029	1238
55°	7304	1484	904
60°	6954	1109	646
65°	6544	745	502
70°	5922	539	405
75°	5110	391	321
80°	4103	319	264
85°	2116	318	207

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7966 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.8	6.6
10°-20°	194.7	17.3
20°-30°	244.7	21.7
30°-40°	227.9	20.2
40°-50°	174.4	15.5
50°-60°	116.0	10.3
60°-70°	62.5	5.6
70°-80°	25.6	2.3
80°-90°	4.9	0.4
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°	514.2	45.7
0°-40°	742.1	65.9
0°-60°	1032.5	91.7
0°-90°	1125.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1125.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	809	809	809	809	809	
5°	798	806	795	792	792	76
15°	757	745	694	653	638	213
25°	681	635	521	434	407	314
35°	581	495	333	236	209	363
45°	467	345	171	100	93	360
55°	348	201	71	49	43	311
65°	229	78	26	19	18	227
75°	110	18	8	8	7	117
85°	15	2	2	2	2	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	809.3	809.3	809.3	809.3	809.3
2.5°	802.4	812.4	803.9	804.7	804.7
5°	797.8	806.2	794.7	791.7	792.4
7.5°	791.7	797.0	777.9	767.9	766.4
10°	782.5	784.0	754.1	736.4	730.3
12.5°	771.0	765.6	726.5	697.3	685.8
15°	757.2	744.9	693.5	652.8	637.5
17.5°	741.8	721.1	655.9	603.0	584.5
20°	723.4	694.2	613.7	547.7	522.4
22.5°	703.5	665.9	569.2	491.0	462.6
25°	681.2	635.2	520.9	434.2	406.6
27.5°	658.2	602.2	473.3	380.5	352.1
30°	633.6	568.4	426.5	328.3	299.2
32.5°	606.8	531.6	378.2	280.0	250.8
35°	580.7	494.8	332.9	235.5	209.4
37.5°	553.1	458.0	289.2	196.4	167.2
40°	525.5	420.4	247.8	158.0	133.5
42.5°	496.3	382.8	208.7	125.8	106.6
45°	467.2	345.2	171.1	100.5	92.8
47.5°	438.0	307.6	138.1	86.7	79.0
50°	407.3	271.6	108.2	73.6	66.0
52.5°	378.2	235.5	84.4	60.6	53.7
55°	347.5	201.0	70.6	49.1	43.0
57.5°	319.1	165.7	58.3	38.4	33.8
60°	288.4	134.2	46.0	29.9	26.8
62.5°	259.3	105.1	35.3	23.8	21.5
65°	229.4	77.5	26.1	19.2	17.6
67.5°	199.5	56.0	19.9	15.3	14.6
70°	168.0	42.2	15.3	12.3	11.5
72.5°	138.1	29.9	11.5	10.0	9.2
75°	109.7	18.4	8.4	7.7	6.9
77.5°	84.4	10.7	6.1	6.1	5.4
80°	59.1	6.1	4.6	4.6	3.8
82.5°	36.1	3.8	3.1	3.1	3.1
85°	15.3	2.3	2.3	2.3	1.5
87.5°	2.3	0.8	0.8	0.8	0.8
90°	0.0	0.0	0.0	0.0	0.0

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**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	17.73	19.08	18.09	19.40	19.71	6.31	7.67	6.67	7.98	8.29
	3H	19.48	20.69	19.86	21.02	21.38	6.97	8.17	7.35	8.50	8.87
	4H	20.18	21.31	20.58	21.66	22.04	7.17	8.29	7.57	8.64	9.02
	6H	20.69	21.73	21.11	22.10	22.49	7.29	8.32	7.70	8.69	9.08
	8H	20.83	21.81	21.26	22.20	22.61	7.32	8.30	7.75	8.69	9.10
	12H	20.89	21.82	21.32	22.20	22.63	7.33	8.27	7.76	8.65	9.08
4H	2H	17.54	18.66	17.94	19.01	19.39	6.86	7.99	7.27	8.34	8.72
	3H	19.33	20.25	19.74	20.65	21.06	7.66	8.58	8.07	8.99	9.39
	4H	20.02	20.85	20.46	21.27	21.71	7.92	8.74	8.35	9.16	9.60
	6H	20.59	21.30	21.06	21.75	22.21	8.12	8.83	8.58	9.27	9.74
	8H	20.77	21.43	21.24	21.88	22.35	8.17	8.83	8.64	9.28	9.75
	12H	20.85	21.44	21.34	21.92	22.40	8.20	8.79	8.69	9.27	9.75
8H	4H	19.90	20.56	20.37	21.01	21.48	8.23	8.89	8.70	9.34	9.81
	6H	20.45	21.00	20.96	21.49	21.97	8.48	9.02	8.98	9.52	10.00
	8H	20.63	21.12	21.15	21.63	22.12	8.57	9.05	9.09	9.57	10.06
	12H	20.73	21.16	21.25	21.66	22.23	8.65	9.08	9.16	9.57	10.14
12H	4H	19.86	20.44	20.34	20.93	21.40	8.28	8.86	8.76	9.34	9.82
	6H	20.40	20.88	20.92	21.40	21.89	8.52	9.01	9.04	9.52	10.02
	8H	20.59	21.02	21.11	21.51	22.08	8.65	9.08	9.17	9.57	10.15