

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: P1055708

Luminaire Tested: S123R3DR-H1000D950-X4F0-XX-UDD-FLL-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055708  
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-H1000D950-X4F0-XX-UDD-FLL-S  
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: -

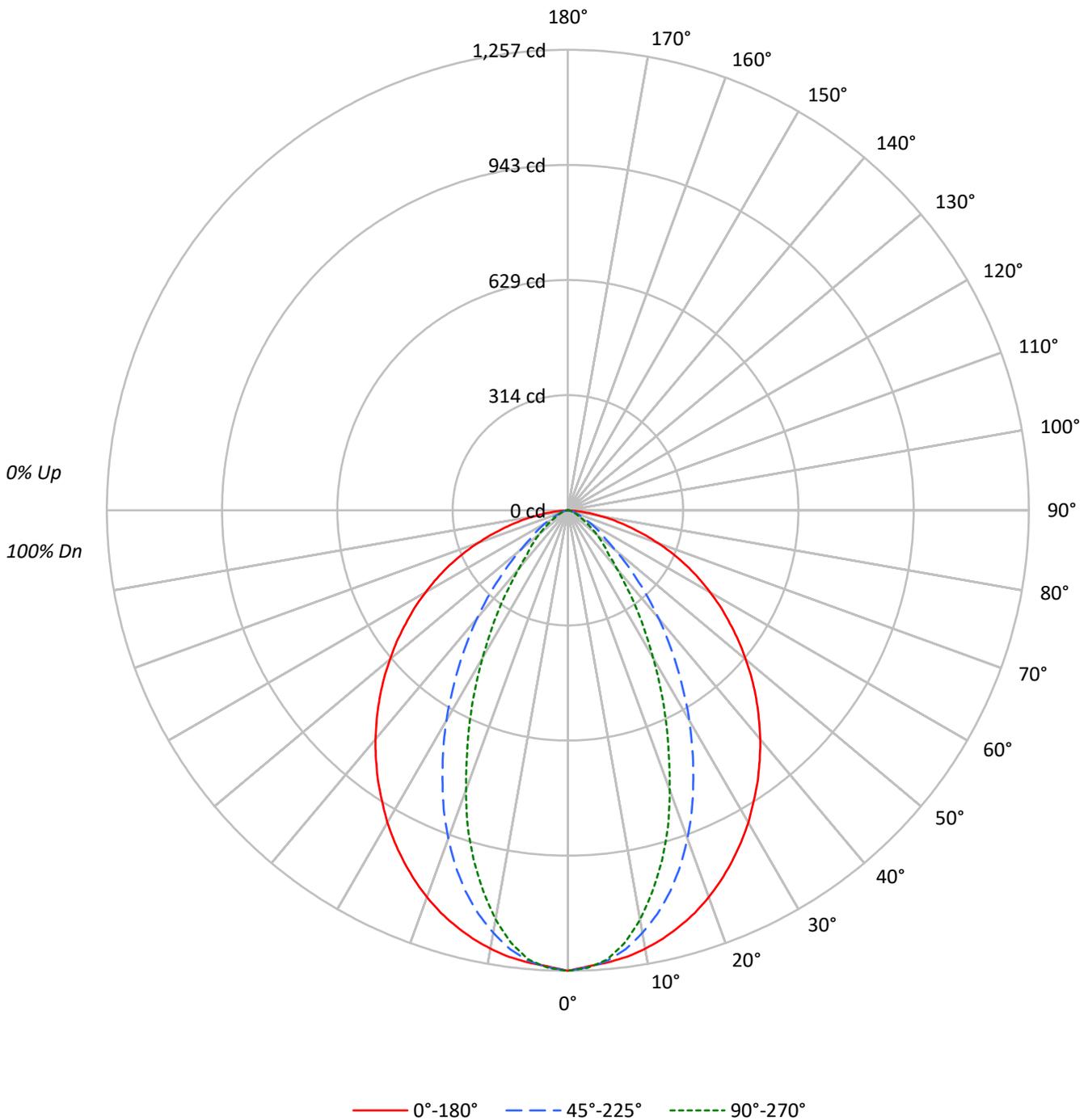
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1748.0 lumens  
Efficiency: N/A  
Efficacy: 56.6 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): 30.9  
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°	15154	15154	15154
5°	14996	14938	14894
10°	14877	14337	13885
15°	14677	13443	12358
20°	14415	12228	10409
25°	14074	10762	8399
30°	13700	9222	6468
35°	13274	7611	4788
40°	12844	6056	3263
45°	12372	4530	2459
50°	11865	3151	1923
55°	11344	2304	1402
60°	10803	1724	1006
65°	10162	1155	782
70°	9197	839	631
75°	7938	610	498
80°	6367	493	417
85°	3292	498	332

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 12372 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.2	6.6
10°-20°	302.4	17.3
20°-30°	380.0	21.7
30°-40°	353.9	20.2
40°-50°	270.9	15.5
50°-60°	180.1	10.3
60°-70°	97.1	5.6
70°-80°	39.8	2.3
80°-90°	7.6	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°	798.6	45.7
0°-40°	1152.5	65.9
0°-60°	1603.5	91.7
0°-90°	1748.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1748.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1257	1257	1257	1257	1257	
5°	1239	1252	1234	1230	1231	118
15°	1176	1157	1077	1014	990	331
25°	1058	986	809	674	631	487
35°	902	768	517	366	325	564
45°	726	536	266	156	144	560
55°	540	312	110	76	67	484
65°	356	120	40	30	27	352
75°	170	29	13	12	11	182
85°	24	4	4	4	2	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1256.9	1256.9	1256.9	1256.9	1256.9
2.5°	1246.2	1261.7	1248.6	1249.8	1249.8
5°	1239.1	1252.2	1234.3	1229.5	1230.7
7.5°	1229.5	1237.9	1208.1	1192.6	1190.2
10°	1215.2	1217.6	1171.1	1143.7	1134.2
12.5°	1197.4	1189.0	1128.3	1083.0	1065.1
15°	1175.9	1156.8	1077.0	1013.9	990.1
17.5°	1152.1	1119.9	1018.6	936.4	907.8
20°	1123.5	1078.2	953.1	850.7	811.3
22.5°	1092.5	1034.1	884.0	762.5	718.4
25°	1058.0	986.5	809.0	674.3	631.4
27.5°	1022.2	935.2	735.1	590.9	546.9
30°	984.1	882.8	662.4	509.9	464.6
32.5°	942.4	825.6	587.4	434.9	389.6
35°	901.9	768.5	517.1	365.8	325.3
37.5°	859.0	711.3	449.2	305.0	259.7
40°	816.1	652.9	384.8	245.4	207.3
42.5°	770.8	594.5	324.1	195.4	165.6
45°	725.6	536.1	265.7	156.1	144.2
47.5°	680.3	477.7	214.5	134.6	122.7
50°	632.6	421.8	168.0	114.4	102.5
52.5°	587.4	365.8	131.1	94.1	83.4
55°	539.7	312.1	109.6	76.2	66.7
57.5°	495.6	257.3	90.5	59.6	52.4
60°	448.0	208.5	71.5	46.5	41.7
62.5°	402.7	163.2	54.8	36.9	33.4
65°	356.2	120.3	40.5	29.8	27.4
67.5°	309.8	87.0	31.0	23.8	22.6
70°	260.9	65.5	23.8	19.1	17.9
72.5°	214.5	46.5	17.9	15.5	14.3
75°	170.4	28.6	13.1	11.9	10.7
77.5°	131.1	16.7	9.5	9.5	8.3
80°	91.7	9.5	7.1	7.1	6.0
82.5°	56.0	6.0	4.8	4.8	4.8
85°	23.8	3.6	3.6	3.6	2.4
87.5°	3.6	1.2	1.2	1.2	1.2
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	19.26	20.61	19.62	20.93	21.24	7.83	9.19	8.20	9.50	9.82
	3H	21.01	22.22	21.39	22.54	22.91	8.50	9.70	8.87	10.03	10.39
	4H	21.71	22.83	22.11	23.18	23.57	8.69	9.82	9.09	10.17	10.55
	6H	22.22	23.26	22.64	23.63	24.02	8.81	9.85	9.23	10.21	10.61
	8H	22.36	23.34	22.79	23.73	24.14	8.85	9.83	9.28	10.22	10.62
	12H	22.41	23.35	22.85	23.73	24.16	8.86	9.79	9.29	10.18	10.61
4H	2H	19.06	20.19	19.47	20.54	20.92	8.39	9.51	8.79	9.86	10.25
	3H	20.86	21.78	21.27	22.18	22.58	9.19	10.11	9.60	10.51	10.91
	4H	21.55	22.38	21.99	22.79	23.24	9.44	10.27	9.88	10.69	11.13
	6H	22.12	22.83	22.58	23.28	23.74	9.64	10.35	10.10	10.80	11.26
	8H	22.30	22.96	22.77	23.41	23.88	9.70	10.36	10.16	10.80	11.28
	12H	22.38	22.97	22.87	23.45	23.93	9.73	10.32	10.21	10.80	11.27
8H	4H	21.43	22.09	21.90	22.54	23.01	9.76	10.42	10.23	10.87	11.34
	6H	21.98	22.52	22.49	23.02	23.50	10.00	10.54	10.50	11.04	11.52
	8H	22.16	22.64	22.68	23.16	23.65	10.09	10.58	10.61	11.09	11.58
	12H	22.26	22.69	22.78	23.19	23.76	10.18	10.60	10.69	11.10	11.67
12H	4H	21.39	21.97	21.87	22.45	22.93	9.80	10.39	10.29	10.87	11.34
	6H	21.92	22.41	22.45	22.93	23.42	10.05	10.54	10.57	11.05	11.54
	8H	22.12	22.55	22.63	23.04	23.61	10.18	10.61	10.69	11.10	11.67