

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: P1055699

Luminaire Tested: S123R3DR-H1000D930-X4F0-XX-UDD-FLL-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055699  
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-H1000D930-X4F0-XX-UDD-FLL-S  
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

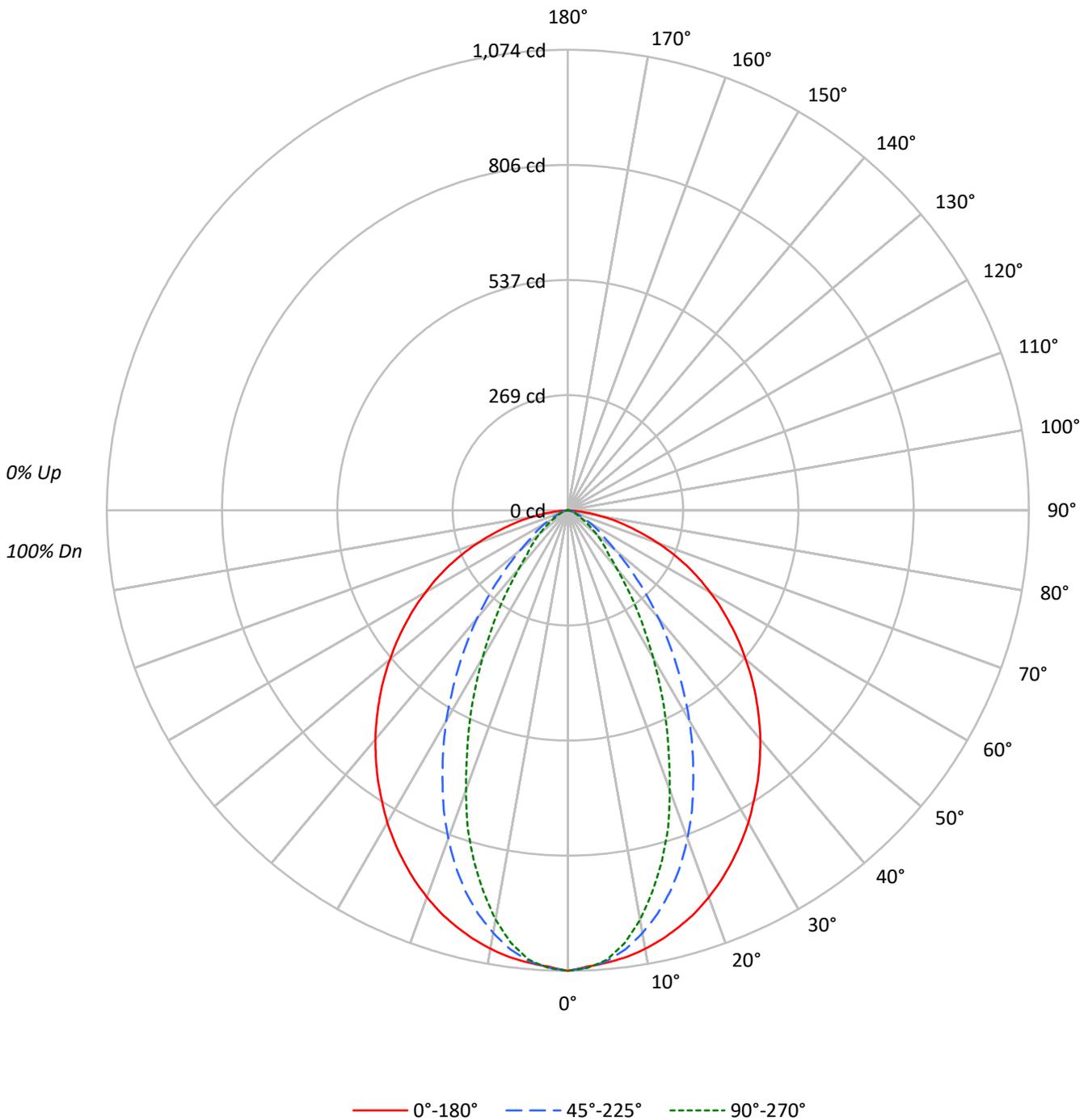
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1493.9 lumens  
Efficiency: N/A  
Efficacy: 48.3 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): 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	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	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89					89			
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79					79			
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70					70			
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62					62			
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56					56			
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51					51			
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46					46			
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42					42			
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39					39			
10	62	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36					36			

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

	0°	45°	90°
0°	12951	12951	12951
5°	12815	12766	12729
10°	12714	12253	11867
15°	12543	11488	10561
20°	12318	10450	8896
25°	12027	9196	7178
30°	11708	7881	5528
35°	11345	6504	4092
40°	10978	5176	2789
45°	10573	3872	2101
50°	10142	2693	1643
55°	9694	1970	1198
60°	9230	1473	858
65°	8684	987	668
70°	7861	719	539
75°	6782	522	429
80°	5443	424	354
85°	2822	429	277

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10573 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.3	6.6
10°-20°	258.5	17.3
20°-30°	324.7	21.7
30°-40°	302.5	20.2
40°-50°	231.5	15.5
50°-60°	153.9	10.3
60°-70°	83.0	5.6
70°-80°	34.0	2.3
80°-90°	6.5	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°	682.5	45.7
0°-40°	985.0	65.9
0°-60°	1370.4	91.7
0°-90°	1493.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1493.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1074	1074	1074	1074	1074	
5°	1059	1070	1055	1051	1052	100
15°	1005	989	920	866	846	283
25°	904	843	691	576	540	416
35°	771	657	442	313	278	482
45°	620	458	227	133	123	478
55°	461	267	94	65	57	413
65°	304	103	35	26	23	301
75°	146	24	11	10	9	156
85°	20	3	3	3	2	30
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1074.2	1074.2	1074.2	1074.2	1074.2
2.5°	1065.0	1078.3	1067.1	1068.1	1068.1
5°	1058.9	1070.1	1054.8	1050.8	1051.8
7.5°	1050.8	1057.9	1032.4	1019.2	1017.2
10°	1038.5	1040.6	1000.9	977.5	969.3
12.5°	1023.3	1016.1	964.2	925.5	910.3
15°	1004.9	988.7	920.4	866.5	846.1
17.5°	984.6	957.1	870.5	800.3	775.9
20°	960.1	921.5	814.5	727.0	693.4
22.5°	933.7	883.8	755.5	651.6	614.0
25°	904.1	843.1	691.3	576.3	539.6
27.5°	873.6	799.3	628.2	505.0	467.3
30°	841.0	754.5	566.1	435.8	397.1
32.5°	805.4	705.6	502.0	371.6	332.9
35°	770.8	656.7	441.9	312.6	278.0
37.5°	734.1	607.9	383.9	260.7	222.0
40°	697.5	558.0	328.9	209.7	177.2
42.5°	658.8	508.1	276.9	167.0	141.5
45°	620.1	458.2	227.1	133.4	123.2
47.5°	581.4	408.3	183.3	115.1	104.9
50°	540.7	360.4	143.6	97.7	87.6
52.5°	502.0	312.6	112.0	80.4	71.3
55°	461.2	266.8	93.7	65.2	57.0
57.5°	423.6	219.9	77.4	50.9	44.8
60°	382.8	178.2	61.1	39.7	35.6
62.5°	344.1	139.5	46.8	31.6	28.5
65°	304.4	102.8	34.6	25.5	23.4
67.5°	264.7	74.3	26.5	20.4	19.3
70°	223.0	56.0	20.4	16.3	15.3
72.5°	183.3	39.7	15.3	13.2	12.2
75°	145.6	24.4	11.2	10.2	9.2
77.5°	112.0	14.3	8.1	8.1	7.1
80°	78.4	8.1	6.1	6.1	5.1
82.5°	47.9	5.1	4.1	4.1	4.1
85°	20.4	3.1	3.1	3.1	2.0
87.5°	3.1	1.0	1.0	1.0	1.0
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	18.71	20.07	19.08	20.38	20.69	7.28	8.64	7.65	8.95	9.27
	3H	20.46	21.67	20.84	22.00	22.36	7.95	9.15	8.33	9.48	9.85
	4H	21.16	22.29	21.57	22.64	23.02	8.14	9.27	8.55	9.62	10.00
	6H	21.68	22.71	22.09	23.08	23.47	8.26	9.30	8.68	9.67	10.06
	8H	21.82	22.80	22.25	23.19	23.59	8.30	9.28	8.73	9.67	10.07
	12H	21.87	22.80	22.30	23.19	23.62	8.31	9.25	8.74	9.63	10.06
4H	2H	18.52	19.64	18.92	19.99	20.38	7.84	8.96	8.24	9.31	9.70
	3H	20.31	21.23	20.72	21.64	22.04	8.64	9.56	9.05	9.96	10.37
	4H	21.01	21.83	21.44	22.25	22.69	8.90	9.72	9.33	10.14	10.58
	6H	21.58	22.29	22.04	22.73	23.20	9.09	9.80	9.56	10.25	10.72
	8H	21.75	22.41	22.22	22.86	23.33	9.15	9.81	9.62	10.26	10.73
	12H	21.84	22.42	22.32	22.91	23.38	9.18	9.77	9.67	10.25	10.72
8H	4H	20.88	21.55	21.35	21.99	22.46	9.21	9.87	9.68	10.32	10.79
	6H	21.44	21.98	21.94	22.47	22.96	9.46	10.00	9.96	10.49	10.98
	8H	21.61	22.10	22.13	22.61	23.10	9.55	10.03	10.07	10.55	11.04
	12H	21.72	22.15	22.23	22.64	23.21	9.63	10.06	10.14	10.55	11.12
12H	4H	20.84	21.43	21.33	21.91	22.38	9.26	9.84	9.74	10.32	10.80
	6H	21.38	21.86	21.90	22.38	22.87	9.50	9.99	10.02	10.50	11.00
	8H	21.57	22.00	22.09	22.50	23.07	9.63	10.06	10.15	10.55	11.12