

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: P1059474

Luminaire Tested: S123RDR-H1000D940-X4F0-XX-UDD-BVL-W

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059474  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-66)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDR-H1000D940-X4F0-XX-UDD-BVL-W  
Description: DEFINE 3 WHITE REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

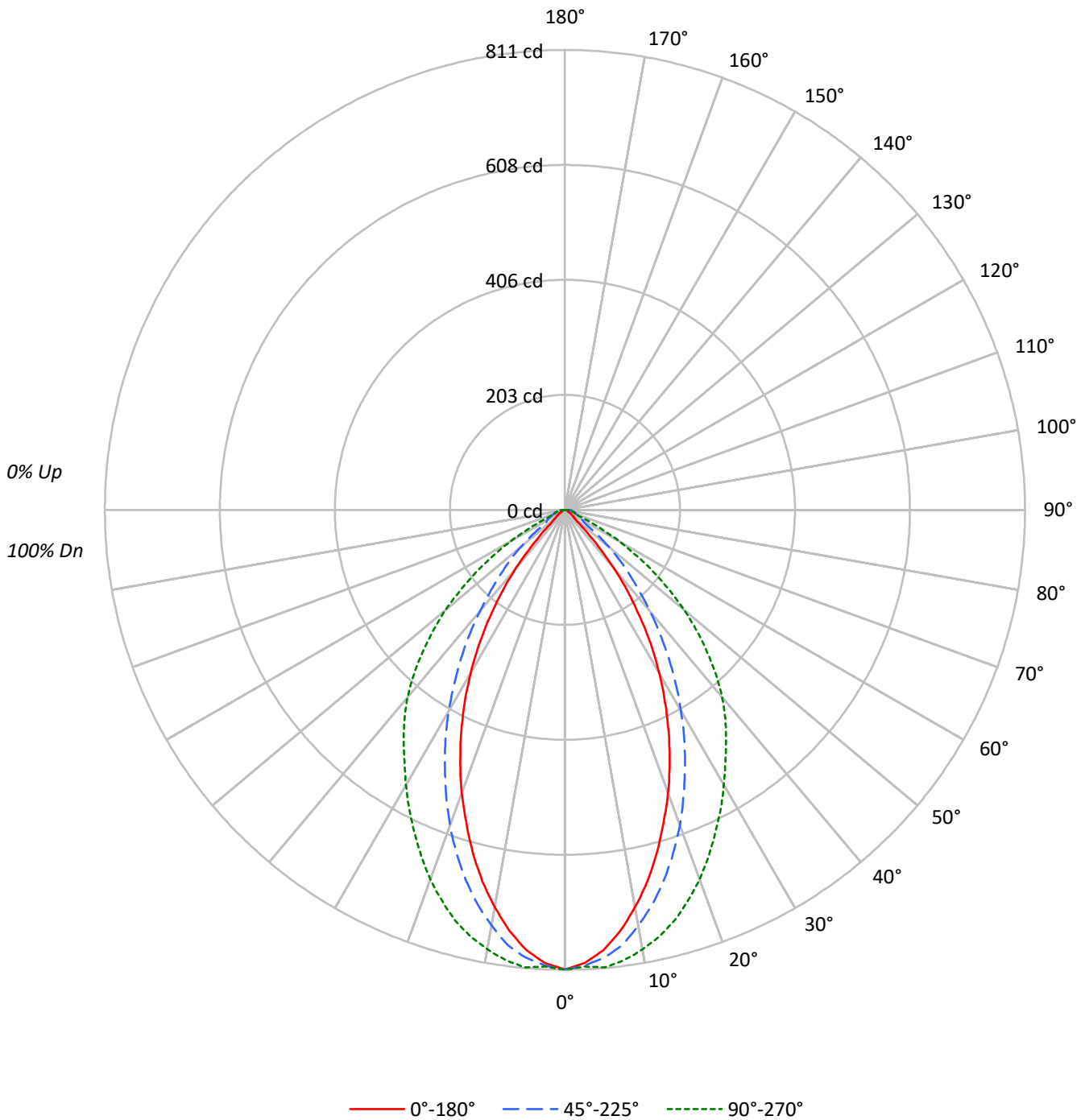
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 973.2 lumens  
Efficiency: N/A  
Efficacy: 31.2 lumens/watt  
Spacing Criteria (0/90/45): 0.79 / 1.06 / 0.94  
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.2  
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

TEST NUMBER: P1059474

CATALOG NUMBER: S123RDR-H1000D940-X4F0-XX-UDD-BVL-W

### Luminous Intensity Polar Plot





TEST NUMBER: P1059474

CATALOG NUMBER: S123RDR-H1000D940-X4F0-XX-UDD-BVL-W

**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	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90
2	105	99	94	90	102	97	92	88	94	90	86	91	87	85	88	85	83	81
3	98	90	84	79	96	89	83	79	86	81	77	83	79	76	81	78	75	73
4	92	83	76	71	90	81	75	70	79	74	70	77	72	69	75	71	68	66
5	86	76	69	64	84	75	69	64	73	67	63	71	66	62	70	65	62	60
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	57	55
7	76	65	58	53	75	65	58	53	63	57	53	62	56	52	61	56	52	50
8	72	61	54	49	70	60	53	49	59	53	49	58	52	48	57	52	48	47
9	68	57	50	45	67	56	50	45	55	49	45	54	49	45	53	48	45	43
10	64	53	46	42	63	53	46	42	52	46	42	51	45	42	50	45	42	40

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

	0°	45°	90°
0°	9518	9518	9518
5°	9191	9341	9543
10°	8485	8878	9386
15°	7615	8211	9104
20°	6642	7401	8666
25°	5604	6487	8129
30°	4506	5546	7597
35°	3298	4566	7100
40°	2057	3559	6613
45°	779	2654	5890
50°	369	1829	5020
55°	283	1003	3882
60°	200	850	2553
65°	147	739	1064
70°	148	694	694
75°	195	726	726
80°	291	866	791
85°	579	1442	1145

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 5890 cd/sqm



TEST NUMBER: P1059474

CATALOG NUMBER: S123RDR-H1000D940-X4F0-XX-UDD-BVL-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.4	7.6
10°-20°	190.8	19.6
20°-30°	236.2	24.3
30°-40°	211.7	21.8
40°-50°	138.8	14.3
50°-60°	69.5	7.1
60°-70°	27.1	2.8
70°-80°	15.3	1.6
80°-90°	9.4	1.0
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°	501.4	51.5
0°-40°	713.2	73.3
0°-60°	921.5	94.7
0°-90°	973.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	973.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	811	811	811	811	811	
5°	780	792	792	801	810	72
15°	626	652	675	720	749	174
25°	432	459	501	572	627	197
35°	230	261	318	414	495	143
45°	47	76	160	274	355	45
55°	14	17	49	134	190	13
65°	5	16	27	35	38	6
75°	4	16	16	16	16	5
85°	4	11	11	11	8	4
90°	0	0	0	0	0	



TEST NUMBER: P1059474

CATALOG NUMBER: S123RDR-H1000D940-X4F0-XX-UDD-BVL-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	810.6	810.6	810.6	810.6	810.6
2.5°	800.0	811.7	804.2	805.3	806.4
5°	779.7	792.5	792.5	801.0	809.6
7.5°	748.9	763.8	774.4	789.3	801.0
10°	711.6	729.7	744.6	771.2	787.2
12.5°	671.1	693.5	712.6	747.8	770.2
15°	626.4	651.9	675.4	720.1	748.9
17.5°	578.4	604.0	634.9	687.1	722.2
20°	531.5	557.1	592.3	650.9	693.5
22.5°	482.5	509.2	546.5	611.4	661.5
25°	432.5	459.1	500.7	572.0	627.4
27.5°	382.4	409.0	455.9	533.7	594.4
30°	332.3	359.0	409.0	492.1	560.3
32.5°	282.3	311.0	363.2	453.8	526.2
35°	230.1	261.0	318.5	414.4	495.3
37.5°	182.2	210.9	275.9	380.3	464.4
40°	134.2	165.1	232.2	347.3	431.4
42.5°	87.3	120.4	192.8	311.0	394.1
45°	46.9	75.6	159.8	273.8	354.7
47.5°	25.6	41.5	128.9	234.3	314.2
50°	20.2	23.4	100.1	200.3	274.8
52.5°	17.0	19.2	71.4	168.3	231.2
55°	13.8	17.0	49.0	134.2	189.6
57.5°	11.7	14.9	38.3	104.4	148.1
60°	8.5	12.8	36.2	76.7	108.7
62.5°	6.4	13.8	32.0	53.3	71.4
65°	5.3	16.0	26.6	35.2	38.3
67.5°	4.3	17.0	23.4	22.4	22.4
70°	4.3	16.0	20.2	19.2	20.2
72.5°	4.3	17.0	18.1	17.0	18.1
75°	4.3	16.0	16.0	16.0	16.0
77.5°	4.3	14.9	14.9	13.8	13.8
80°	4.3	12.8	12.8	12.8	11.7
82.5°	4.3	11.7	11.7	11.7	9.6
85°	4.3	10.7	10.7	10.7	8.5
87.5°	3.2	9.6	10.7	9.6	6.4
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1059474  
 CATALOG NUMBER: S123RDR-H1000D940-X4F0-XX-UDD-BVL-W

**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	0.18	1.44	0.54	1.75	2.06	14.43	15.69	14.80	16.00	16.32
	3H	2.52	3.63	2.90	3.96	4.33	14.51	15.63	14.90	15.96	16.32
	4H	3.63	4.66	4.03	5.01	5.40	14.59	15.63	15.00	15.98	16.36
	6H	4.62	5.57	5.04	5.94	6.34	14.70	15.64	15.11	16.02	16.41
	8H	5.11	6.01	5.54	6.40	6.80	14.75	15.65	15.18	16.04	16.45
	12H	5.67	6.53	6.11	6.91	7.34	14.83	15.69	15.27	16.08	16.51
4H	2H	3.43	4.46	3.83	4.81	5.20	14.29	15.32	14.69	15.67	16.06
	3H	5.75	6.59	6.16	7.00	7.40	14.46	15.31	14.88	15.71	16.12
	4H	7.13	7.88	7.56	8.30	8.75	14.62	15.37	15.05	15.79	16.24
	6H	8.22	8.87	8.68	9.31	9.78	14.84	15.49	15.30	15.94	16.41
	8H	8.67	9.28	9.15	9.73	10.20	14.96	15.57	15.43	16.02	16.49
	12H	9.17	9.71	9.66	10.20	10.67	15.14	15.68	15.63	16.16	16.64
8H	4H	8.10	8.71	8.57	9.16	9.63	14.61	15.22	15.08	15.67	16.14
	6H	9.62	10.12	10.13	10.62	11.10	14.95	15.45	15.45	15.95	16.43
	8H	10.40	10.85	10.92	11.36	11.86	15.18	15.63	15.70	16.15	16.64
	12H	11.21	11.60	11.72	12.10	12.67	15.52	15.91	16.03	16.41	16.98
12H	4H	8.28	8.81	8.76	9.30	9.77	14.60	15.14	15.08	15.62	16.09
	6H	9.94	10.39	10.46	10.90	11.40	14.97	15.42	15.49	15.93	16.43
	8H	10.89	11.29	11.41	11.79	12.36	15.28	15.68	15.79	16.17	16.74