

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: P1059437

Luminaire Tested: S123RDR-H1000D850-X4F0-XX-UDD-BVL-S

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059437  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-69)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDR-H1000D850-X4F0-XX-UDD-BVL-S  
Description: DEFINE 3 SILVER REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

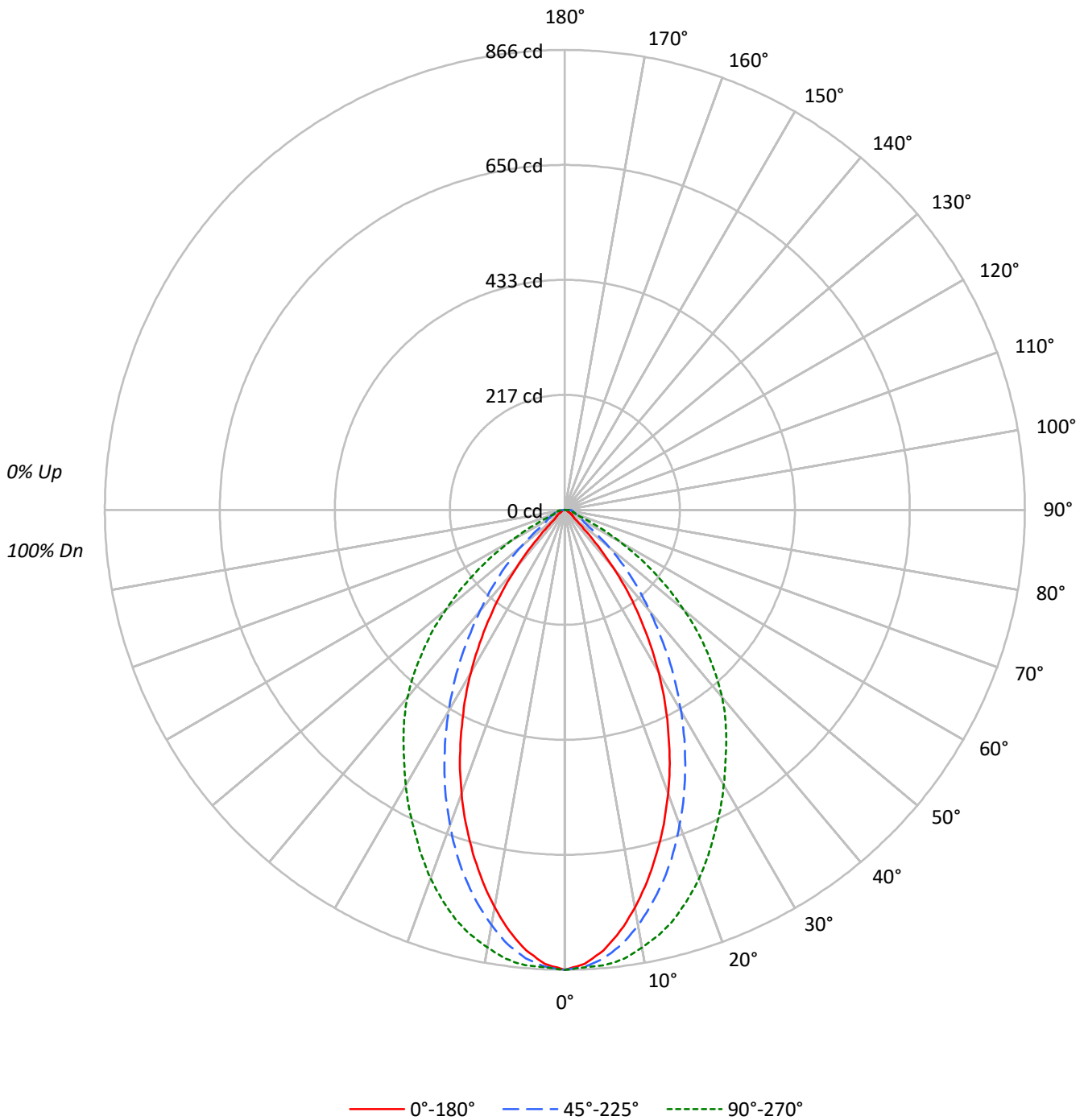
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1040.4 lumens  
Efficiency: N/A  
Efficacy: 33.3 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

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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	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	89	102	97	92	88	94	90	86	90	87	85	88	85	83	81				
3	98	90	84	79	96	89	83	78	86	81	77	83	79	76	81	78	75	73				
4	92	83	76	71	90	81	75	70	79	74	69	77	72	69	75	71	68	66				
5	86	76	69	64	84	75	68	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	64	58	53	63	57	53	62	56	52	61	56	52	50				
8	72	61	54	49	70	60	53	49	59	53	48	58	52	48	57	52	48	46				
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	41	40				

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

	0°	45°	90°
0°	10171	10171	10171
5°	9820	9991	10148
10°	9064	9476	9980
15°	8130	8759	9693
20°	7100	7894	9235
25°	5972	6950	8665
30°	4794	5927	8116
35°	3512	4880	7595
40°	2172	3797	7065
45°	835	2860	6290
50°	411	1960	5323
55°	326	1085	4176
60°	218	902	2799
65°	183	809	1250
70°	182	728	728
75°	240	780	721
80°	358	987	805
85°	539	1603	1064

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 6290 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	79.4	7.6
10°-20°	203.3	19.5
20°-30°	252.3	24.3
30°-40°	226.1	21.7
40°-50°	148.6	14.3
50°-60°	74.5	7.2
60°-70°	29.4	2.8
70°-80°	16.5	1.6
80°-90°	10.3	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°	535.1	51.4
0°-40°	761.2	73.2
0°-60°	984.2	94.6
0°-90°	1040.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1040.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	866	866	866	866	866	
5°	833	846	848	853	861	77
15°	669	690	720	770	797	186
25°	461	490	536	612	669	211
35°	245	278	340	445	530	152
45°	50	83	172	290	379	48
55°	16	18	53	143	204	14
65°	7	18	29	37	45	7
75°	5	17	17	16	16	6
85°	4	12	12	12	8	4
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	866.2	866.2	866.2	866.2	866.2
2.5°	855.6	867.5	860.9	860.9	862.2
5°	833.1	846.3	847.6	852.9	860.9
7.5°	800.0	817.2	825.1	841.0	852.9
10°	760.2	778.8	794.7	822.5	837.0
12.5°	716.5	735.1	758.9	797.3	819.8
15°	668.8	690.0	720.5	769.5	797.3
17.5°	619.8	641.0	678.1	733.7	769.5
20°	568.2	592.0	631.7	695.3	739.0
22.5°	516.5	543.0	585.4	654.3	704.6
25°	460.9	490.0	536.4	611.9	668.8
27.5°	407.9	438.4	487.4	569.5	634.4
30°	353.6	384.1	437.1	525.8	598.6
32.5°	298.0	332.4	388.1	484.7	562.9
35°	245.0	278.1	340.4	445.0	529.8
37.5°	193.4	226.5	291.4	406.6	496.7
40°	141.7	176.1	247.7	369.5	460.9
42.5°	92.7	128.5	209.3	332.4	421.2
45°	50.3	83.4	172.2	290.0	378.8
47.5°	27.8	45.0	139.1	250.3	337.7
50°	22.5	25.2	107.3	213.2	291.4
52.5°	18.5	21.2	76.8	177.5	249.0
55°	15.9	18.5	53.0	143.0	204.0
57.5°	13.2	15.9	42.4	109.9	160.3
60°	9.3	15.9	38.4	80.8	119.2
62.5°	7.9	15.9	33.1	55.6	79.5
65°	6.6	18.5	29.1	37.1	45.0
67.5°	5.3	18.5	25.2	23.8	23.8
70°	5.3	18.5	21.2	19.9	21.2
72.5°	5.3	19.9	19.9	18.5	18.5
75°	5.3	17.2	17.2	15.9	15.9
77.5°	5.3	15.9	15.9	14.6	14.6
80°	5.3	14.6	14.6	13.2	11.9
82.5°	5.3	13.2	13.2	11.9	10.6
85°	4.0	11.9	11.9	11.9	7.9
87.5°	4.0	10.6	11.9	10.6	6.6
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	0.52	1.77	0.88	2.09	2.40	14.60	15.86	14.97	16.17	16.49
	3H	3.03	4.15	3.41	4.48	4.84	14.68	15.80	15.06	16.13	16.49
	4H	4.20	5.24	4.61	5.59	5.97	14.75	15.78	15.15	16.13	16.52
	6H	5.26	6.21	5.67	6.58	6.97	14.84	15.80	15.26	16.17	16.56
	8H	5.80	6.70	6.23	7.09	7.49	14.90	15.80	15.34	16.20	16.60
	12H	6.28	7.14	6.71	7.52	7.95	14.97	15.83	15.41	16.22	16.65
4H	2H	3.77	4.81	4.18	5.16	5.54	14.46	15.50	14.87	15.85	16.24
	3H	6.24	7.08	6.65	7.49	7.89	14.64	15.48	15.05	15.89	16.29
	4H	7.58	8.34	8.02	8.76	9.20	14.77	15.52	15.20	15.94	16.39
	6H	8.72	9.37	9.18	9.82	10.29	14.98	15.64	15.45	16.08	16.55
	8H	9.23	9.84	9.70	10.28	10.76	15.11	15.72	15.58	16.17	16.64
	12H	9.68	10.22	10.17	10.71	11.18	15.27	15.80	15.75	16.29	16.76
8H	4H	8.50	9.11	8.97	9.56	10.03	14.77	15.38	15.24	15.83	16.30
	6H	10.10	10.60	10.61	11.10	11.58	15.10	15.60	15.60	16.10	16.58
	8H	10.93	11.38	11.45	11.89	12.39	15.33	15.78	15.85	16.29	16.79
	12H	11.71	12.10	12.22	12.60	13.17	15.65	16.05	16.17	16.55	17.12
12H	4H	8.67	9.21	9.15	9.69	10.17	14.76	15.30	15.25	15.78	16.26
	6H	10.42	10.87	10.94	11.38	11.88	15.13	15.58	15.65	16.10	16.59
	8H	11.42	11.82	11.94	12.32	12.89	15.44	15.84	15.95	16.33	16.91