

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: P1059443

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

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059443  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-67 )  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDR-H1000D850-X4F0-XX-UDD-WVL-S  
Description: DEFINE 3 SILVER REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

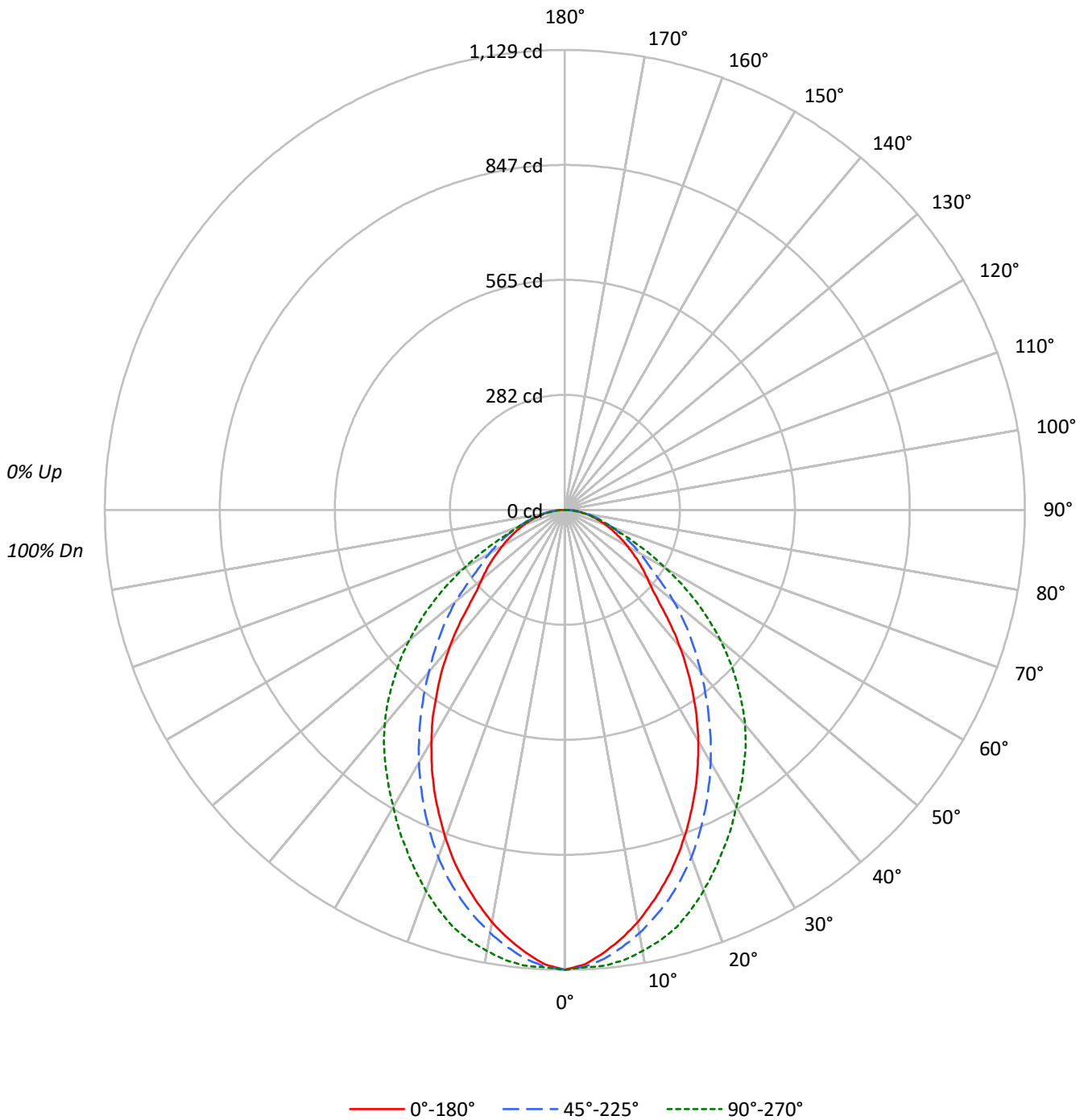
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2039.3 lumens  
Efficiency: N/A  
Efficacy: 65.4 lumens/watt  
Spacing Criteria (0/90/45): 0.93 / 1.12 / 1.1  
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	110	106	102	99	108	104	100	97	100	97	94	96	93	91	92	90	89	87				
2	102	94	88	83	99	92	87	82	89	84	80	86	82	78	83	80	77	75				
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	71	67	65				
4	87	76	68	62	84	74	67	61	72	66	61	70	64	60	68	63	59	57				
5	80	69	60	54	78	68	60	54	66	59	54	64	58	53	62	57	53	51				
6	75	63	54	48	73	62	54	48	60	53	48	58	52	47	57	51	47	45				
7	70	57	49	44	68	56	49	43	55	48	43	54	47	43	52	47	43	41				
8	65	53	45	39	64	52	45	39	51	44	39	50	43	39	48	43	39	37				
9	61	49	41	36	60	48	41	36	47	40	36	46	40	36	45	39	35	34				
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31				

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

	0°	45°	90°
0°	13257	13257	13257
5°	12871	13043	13245
10°	12262	12578	13115
15°	11521	12019	12888
20°	10700	11345	12437
25°	9826	10546	11919
30°	8882	9708	11414
35°	7835	8822	10985
40°	6735	7953	10549
45°	5538	7166	9891
50°	4859	6383	9116
55°	4498	5446	8074
60°	4133	5005	6684
65°	3862	4596	5260
70°	3636	4182	4182
75°	3421	3843	3602
80°	3219	3489	3043
85°	3031	3382	2317

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 9891 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	104.4	5.1
10°-20°	279.9	13.7
20°-30°	379.4	18.6
30°-40°	396.7	19.5
40°-50°	344.1	16.9
50°-60°	255.9	12.6
60°-70°	164.2	8.1
70°-80°	88.1	4.3
80°-90°	26.6	1.3
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°	763.7	37.4
0°-40°	1160.4	56.9
0°-60°	1760.4	86.3
0°-90°	2039.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2039.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1129	1129	1129	1129	1129	
5°	1092	1110	1106	1114	1124	102
15°	948	970	989	1028	1060	266
25°	758	782	814	868	920	348
35°	547	573	615	694	766	341
45°	334	359	432	524	596	262
55°	220	225	266	342	394	197
65°	139	151	165	176	189	138
75°	75	87	85	81	79	80
85°	22	28	25	21	17	26
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1129.0	1129.0	1129.0	1129.0	1129.0
2.5°	1117.1	1132.9	1122.4	1122.4	1123.7
5°	1091.9	1110.4	1106.5	1114.4	1123.7
7.5°	1061.5	1081.3	1082.7	1101.2	1114.4
10°	1028.4	1048.2	1054.9	1081.3	1099.9
12.5°	988.7	1011.2	1023.1	1056.2	1082.7
15°	947.7	970.2	988.7	1028.4	1060.2
17.5°	904.0	926.5	950.3	995.3	1029.7
20°	856.3	880.1	907.9	952.9	995.3
22.5°	807.4	832.5	861.6	910.6	958.2
25°	758.4	782.2	814.0	868.2	919.9
27.5°	706.8	731.9	765.0	824.6	882.8
30°	655.1	680.3	716.0	779.6	841.8
32.5°	602.2	627.4	665.7	737.2	804.7
35°	546.6	573.1	615.4	693.5	766.3
37.5°	493.7	518.8	566.5	652.5	729.3
40°	439.4	465.9	518.8	611.5	688.2
42.5°	386.5	412.9	475.1	567.8	643.2
45°	333.5	358.7	431.5	524.1	595.6
47.5°	292.5	311.0	390.4	477.8	549.3
50°	266.0	272.6	349.4	432.8	499.0
52.5°	242.2	247.5	304.4	387.8	447.4
55°	219.7	225.0	266.0	341.5	394.4
57.5°	197.2	203.8	236.9	293.8	341.5
60°	176.0	184.0	213.1	251.5	284.6
62.5°	157.5	166.8	189.3	213.1	235.6
65°	139.0	150.9	165.4	176.0	189.3
67.5°	121.8	135.0	142.9	145.6	146.9
70°	105.9	119.1	121.8	121.8	121.8
72.5°	90.0	104.6	101.9	100.6	99.3
75°	75.4	87.4	84.7	80.7	79.4
77.5°	60.9	71.5	67.5	64.9	60.9
80°	47.6	55.6	51.6	49.0	45.0
82.5°	35.7	41.0	37.1	34.4	30.4
85°	22.5	27.8	25.1	21.2	17.2
87.5°	11.9	15.9	13.2	11.9	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	15.76	17.25	16.13	17.56	17.88	18.52	20.00	18.89	20.32	20.63
	3H	17.48	18.80	17.85	19.13	19.49	19.54	20.87	19.92	21.20	21.56
	4H	18.14	19.38	18.54	19.73	20.11	19.91	21.15	20.31	21.50	21.88
	6H	18.64	19.79	19.05	20.15	20.55	20.16	21.31	20.57	21.68	22.07
	8H	18.81	19.91	19.24	20.30	20.70	20.23	21.33	20.66	21.72	22.12
	12H	18.94	19.99	19.37	20.37	20.80	20.27	21.32	20.70	21.70	22.13
4H	2H	16.54	17.79	16.94	18.13	18.51	18.79	20.04	19.19	20.39	20.77
	3H	18.47	19.50	18.88	19.90	20.30	20.05	21.08	20.46	21.48	21.88
	4H	19.28	20.21	19.71	20.62	21.06	20.53	21.46	20.97	21.88	22.32
	6H	19.92	20.73	20.38	21.17	21.63	20.91	21.72	21.37	22.17	22.63
	8H	20.14	20.90	20.61	21.34	21.81	21.03	21.78	21.49	22.23	22.69
	12H	20.32	20.99	20.80	21.47	21.94	21.10	21.77	21.58	22.25	22.72
8H	4H	19.60	20.35	20.06	20.80	21.26	20.72	21.48	21.19	21.92	22.39
	6H	20.39	21.01	20.89	21.51	21.98	21.21	21.84	21.71	22.33	22.81
	8H	20.72	21.28	21.23	21.79	22.28	21.39	21.95	21.90	22.46	22.95
	12H	20.99	21.49	21.50	21.98	22.55	21.52	22.02	22.03	22.51	23.08
12H	4H	19.62	20.30	20.10	20.77	21.25	20.74	21.41	21.22	21.89	22.36
	6H	20.44	21.00	20.96	21.52	22.00	21.25	21.81	21.77	22.32	22.81
	8H	20.84	21.33	21.35	21.82	22.39	21.48	21.98	21.99	22.47	23.03