

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: P1059438

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

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059438  
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-H1000D850-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: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

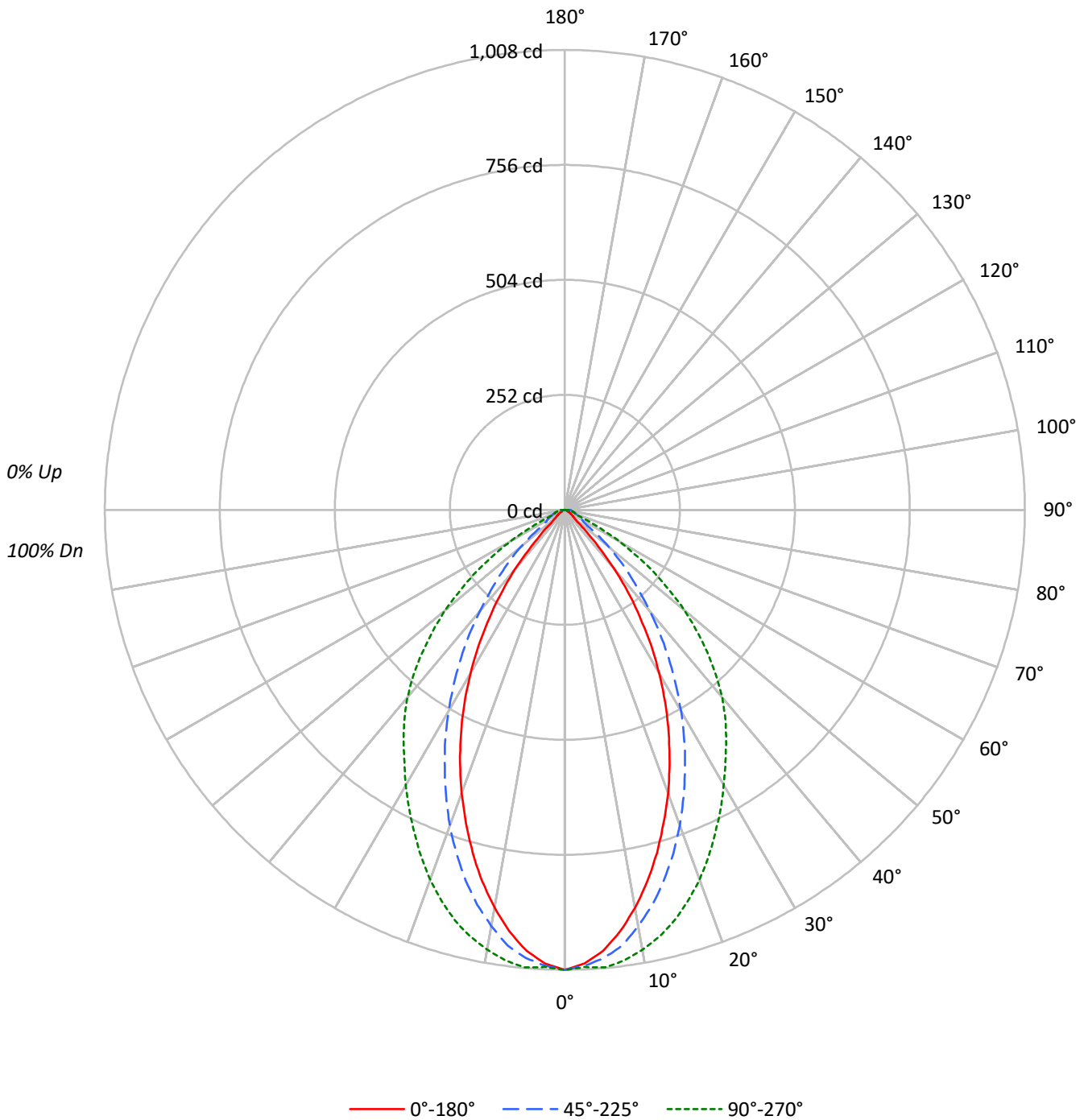
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1210.4 lumens  
Efficiency: N/A  
Efficacy: 38.8 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	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	87	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°	11839	11839	11839
5°	11430	11618	11867
10°	10552	11041	11673
15°	9470	10210	11322
20°	8261	9205	10777
25°	6969	8068	10110
30°	5604	6897	9448
35°	4103	5678	8830
40°	2558	4427	8224
45°	968	3300	7327
50°	460	2274	6244
55°	352	1247	4827
60°	249	1057	3173
65°	183	920	1325
70°	182	865	865
75°	240	903	903
80°	358	1075	987
85°	714	1778	1428

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 7327 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	92.5	7.6
10°-20°	237.3	19.6
20°-30°	293.8	24.3
30°-40°	263.3	21.8
40°-50°	172.7	14.3
50°-60°	86.4	7.1
60°-70°	33.7	2.8
70°-80°	19.0	1.6
80°-90°	11.7	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°	623.6	51.5
0°-40°	887.0	73.3
0°-60°	1146.0	94.7
0°-90°	1210.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1210.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1008	1008	1008	1008	1008	
5°	970	986	986	996	1007	90
15°	779	811	840	896	931	217
25°	538	571	623	711	780	246
35°	286	325	396	515	616	178
45°	58	94	199	340	441	56
55°	17	21	61	167	236	16
65°	7	20	33	44	48	7
75°	5	20	20	20	20	6
85°	5	13	13	13	11	5
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1008.2	1008.2	1008.2	1008.2	1008.2
2.5°	994.9	1009.5	1000.2	1001.5	1002.9
5°	969.7	985.6	985.6	996.2	1006.8
7.5°	931.3	949.9	963.1	981.7	996.2
10°	885.0	907.5	926.0	959.2	979.0
12.5°	834.6	862.4	886.3	930.0	957.8
15°	779.0	810.8	839.9	895.6	931.3
17.5°	719.4	751.2	789.6	854.5	898.2
20°	661.1	692.9	736.6	809.4	862.4
22.5°	600.1	633.3	679.6	760.4	822.7
25°	537.9	571.0	622.7	711.4	780.3
27.5°	475.6	508.7	567.0	663.7	739.2
30°	413.3	446.5	508.7	612.1	696.8
32.5°	351.1	386.8	451.8	564.4	654.4
35°	286.2	324.6	396.1	515.3	616.0
37.5°	226.5	262.3	343.1	473.0	577.6
40°	166.9	205.3	288.8	431.9	536.5
42.5°	108.6	149.7	239.8	386.8	490.2
45°	58.3	94.1	198.7	340.5	441.2
47.5°	31.8	51.7	160.3	291.5	390.8
50°	25.2	29.1	124.5	249.1	341.8
52.5°	21.2	23.8	88.8	209.3	287.5
55°	17.2	21.2	60.9	166.9	235.8
57.5°	14.6	18.5	47.7	129.8	184.1
60°	10.6	15.9	45.0	95.4	135.1
62.5°	7.9	17.2	39.7	66.2	88.8
65°	6.6	19.9	33.1	43.7	47.7
67.5°	5.3	21.2	29.1	27.8	27.8
70°	5.3	19.9	25.2	23.8	25.2
72.5°	5.3	21.2	22.5	21.2	22.5
75°	5.3	19.9	19.9	19.9	19.9
77.5°	5.3	18.5	18.5	17.2	17.2
80°	5.3	15.9	15.9	15.9	14.6
82.5°	5.3	14.6	14.6	14.6	11.9
85°	5.3	13.2	13.2	13.2	10.6
87.5°	4.0	11.9	13.2	11.9	7.9
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	0.93	2.19	1.30	2.50	2.81	15.19	16.45	15.55	16.76	17.07
	3H	3.27	4.38	3.65	4.71	5.08	15.27	16.38	15.65	16.71	17.08
	4H	4.38	5.41	4.78	5.76	6.15	15.35	16.38	15.75	16.73	17.12
	6H	5.37	6.32	5.78	6.69	7.08	15.45	16.40	15.87	16.77	17.17
	8H	5.85	6.75	6.28	7.14	7.54	15.51	16.41	15.94	16.80	17.20
	12H	6.41	7.27	6.84	7.65	8.08	15.59	16.45	16.02	16.83	17.26
4H	2H	4.19	5.22	4.59	5.57	5.96	15.04	16.08	15.45	16.43	16.81
	3H	6.51	7.35	6.92	7.76	8.16	15.22	16.06	15.63	16.47	16.87
	4H	7.88	8.64	8.32	9.06	9.50	15.37	16.13	15.81	16.55	16.99
	6H	8.97	9.62	9.43	10.07	10.53	15.60	16.25	16.06	16.70	17.16
	8H	9.43	10.03	9.90	10.48	10.95	15.72	16.33	16.19	16.78	17.25
	12H	9.92	10.46	10.41	10.94	11.41	15.89	16.43	16.38	16.92	17.39
8H	4H	8.86	9.47	9.33	9.91	10.38	15.37	15.98	15.84	16.43	16.90
	6H	10.38	10.87	10.88	11.37	11.85	15.71	16.20	16.21	16.70	17.18
	8H	11.15	11.60	11.67	12.12	12.61	15.94	16.39	16.46	16.90	17.40
	12H	11.95	12.35	12.47	12.85	13.42	16.27	16.67	16.79	17.17	17.74
12H	4H	9.03	9.57	9.52	10.05	10.53	15.35	15.89	15.84	16.37	16.85
	6H	10.69	11.14	11.21	11.66	12.15	15.73	16.17	16.25	16.69	17.18
	8H	11.65	12.05	12.16	12.54	13.11	16.04	16.43	16.55	16.93	17.50