

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: P1059520

Luminaire Tested: S123RDR-H1165D850-X4F0-XX-UDD-SVL-B

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059520  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-29)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDR-H1165D850-X4F0-XX-UDD-SVL-B  
Description: DEFINE 3 BLACK REGRESSED DIRECT RECESSED HOUSING WITH SILVER STRAIGHT BLADE LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

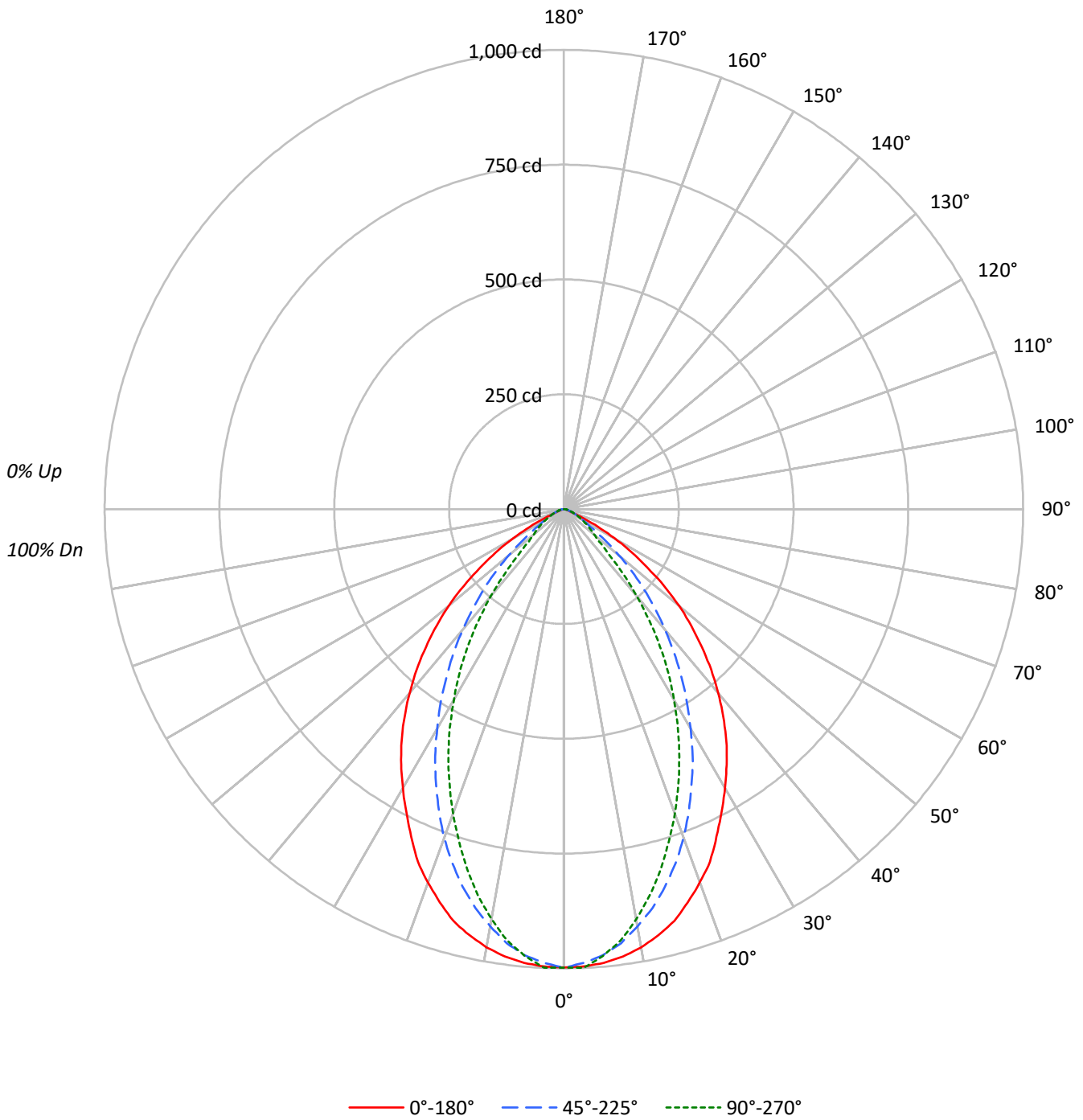
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1288.6 lumens  
Efficiency: N/A  
Efficacy: 35.3 lumens/watt  
Spacing Criteria (0/90/45): 1.08 / 0.85 / 0.98  
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 36.5  
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	109	106	103	110	107	104	102	103	100	98	99	97	95	95	94	93	91
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	83	82
3	98	90	84	80	96	89	83	79	86	82	78	84	80	76	81	78	75	73
4	92	83	76	71	90	82	75	71	79	74	70	77	73	69	75	71	68	66
5	86	76	69	64	84	75	68	63	73	67	63	71	66	62	70	65	62	60
6	81	70	63	58	79	69	62	58	68	62	57	66	61	57	65	60	56	55
7	76	65	58	53	74	64	57	53	63	57	52	61	56	52	60	55	52	50
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46
9	67	56	49	45	66	56	49	44	55	48	44	54	48	44	53	48	44	42
10	64	52	46	41	63	52	46	41	51	45	41	50	45	41	49	44	41	39

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

	0°	45°	90°
0°	11721	11721	11721
5°	11693	11493	11511
10°	11553	11000	10815
15°	11290	10350	9881
20°	10813	9519	8825
25°	10190	8529	7708
30°	9512	7479	6495
35°	8837	6379	5228
40°	8006	5258	3789
45°	7056	4080	2283
50°	5985	2852	1553
55°	4555	1707	1298
60°	2976	1090	1017
65°	1245	817	817
70°	426	584	635
75°	349	422	490
80°	210	311	419
85°	202	202	418

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7056 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	92.2	7.2
10°-20°	241.3	18.7
20°-30°	309.4	24.0
30°-40°	290.3	22.5
40°-50°	202.5	15.7
50°-60°	104.7	8.1
60°-70°	35.8	2.8
70°-80°	10.2	0.8
80°-90°	2.1	0.2
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°	642.9	49.9
0°-40°	933.2	72.4
0°-60°	1240.5	96.3
0°-90°	1288.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1288.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	998	998	998	998	998	
5°	992	990	975	980	977	94
15°	929	906	851	824	813	260
25°	786	737	658	614	595	362
35°	616	541	445	388	365	384
45°	425	348	246	170	138	327
55°	222	167	83	65	63	200
65°	45	39	29	28	29	53
75°	8	8	9	11	11	8
85°	2	2	2	2	3	1
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	998.2	998.2	998.2	998.2	998.2
2.5°	996.7	998.2	988.9	998.2	999.8
5°	992.0	990.5	975.0	979.7	976.6
7.5°	982.8	978.1	953.4	947.2	947.2
10°	968.9	959.6	922.5	911.7	907.0
12.5°	950.3	937.9	890.0	870.0	862.2
15°	928.7	905.5	851.4	823.6	812.8
17.5°	897.8	866.9	808.2	775.7	758.7
20°	865.3	826.7	761.8	723.2	706.2
22.5°	831.3	785.0	710.8	669.1	650.5
25°	786.5	737.1	658.3	613.5	594.9
27.5°	743.3	690.7	607.3	556.3	537.7
30°	701.5	639.7	551.6	502.2	479.0
32.5°	659.8	590.3	499.1	445.0	423.4
35°	616.5	540.8	445.0	387.9	364.7
37.5°	570.2	492.9	394.0	332.2	304.4
40°	522.3	441.9	343.0	273.5	247.2
42.5°	474.4	395.6	292.0	221.0	190.1
45°	424.9	347.7	245.7	170.0	137.5
47.5°	375.5	299.8	200.9	123.6	103.5
50°	327.6	255.0	156.1	91.2	85.0
52.5°	275.0	211.7	117.4	75.7	74.2
55°	222.5	166.9	83.4	64.9	63.4
57.5°	176.2	129.8	60.3	54.1	52.5
60°	126.7	92.7	46.4	44.8	43.3
62.5°	83.4	63.4	37.1	35.5	35.5
65°	44.8	38.6	29.4	27.8	29.4
67.5°	18.5	21.6	21.6	23.2	23.2
70°	12.4	13.9	17.0	18.5	18.5
72.5°	9.3	10.8	12.4	13.9	13.9
75°	7.7	7.7	9.3	10.8	10.8
77.5°	4.6	6.2	6.2	7.7	9.3
80°	3.1	4.6	4.6	6.2	6.2
82.5°	1.5	3.1	3.1	4.6	4.6
85°	1.5	1.5	1.5	1.5	3.1
87.5°	0.0	0.0	0.0	0.0	1.5
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	14.88	16.14	15.25	16.46	16.77	8.39	9.65	8.76	9.96	10.28
	3H	14.84	15.95	15.22	16.28	16.64	9.16	10.27	9.55	10.60	10.97
	4H	14.79	15.81	15.19	16.17	16.55	9.37	10.40	9.77	10.75	11.13
	6H	14.71	15.66	15.13	16.03	16.42	9.51	10.45	9.93	10.83	11.22
	8H	14.67	15.56	15.10	15.95	16.36	9.55	10.44	9.98	10.83	11.24
	12H	14.63	15.48	15.06	15.86	16.29	9.56	10.41	10.00	10.80	11.23
4H	2H	14.73	15.76	15.14	16.11	16.50	8.65	9.68	9.05	10.03	10.41
	3H	14.72	15.55	15.13	15.96	16.36	9.56	10.39	9.97	10.79	11.20
	4H	14.66	15.41	15.10	15.83	16.27	9.83	10.57	10.26	10.99	11.43
	6H	14.61	15.25	15.07	15.69	16.16	10.04	10.68	10.51	11.13	11.60
	8H	14.55	15.15	15.03	15.60	16.07	10.10	10.70	10.58	11.15	11.62
	12H	14.51	15.03	15.00	15.52	15.99	10.14	10.66	10.63	11.15	11.62
8H	4H	14.55	15.15	15.02	15.59	16.07	9.81	10.41	10.28	10.85	11.33
	6H	14.49	14.97	14.99	15.47	15.95	10.08	10.56	10.58	11.06	11.55
	8H	14.44	14.87	14.96	15.39	15.88	10.19	10.62	10.71	11.14	11.63
	12H	14.40	14.78	14.92	15.28	15.85	10.26	10.64	10.77	11.14	11.71
12H	4H	14.51	15.03	14.99	15.51	15.99	9.77	10.30	10.26	10.78	11.26
	6H	14.43	14.87	14.96	15.38	15.88	10.04	10.48	10.57	10.99	11.49
	8H	14.40	14.79	14.92	15.28	15.85	10.18	10.56	10.69	11.06	11.63