

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: P1059522

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

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059522  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-65)  
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-W  
Description: DEFINE 3 WHITE REGRESSED DIRECT RECESSED HOUSING WITH SILVER STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

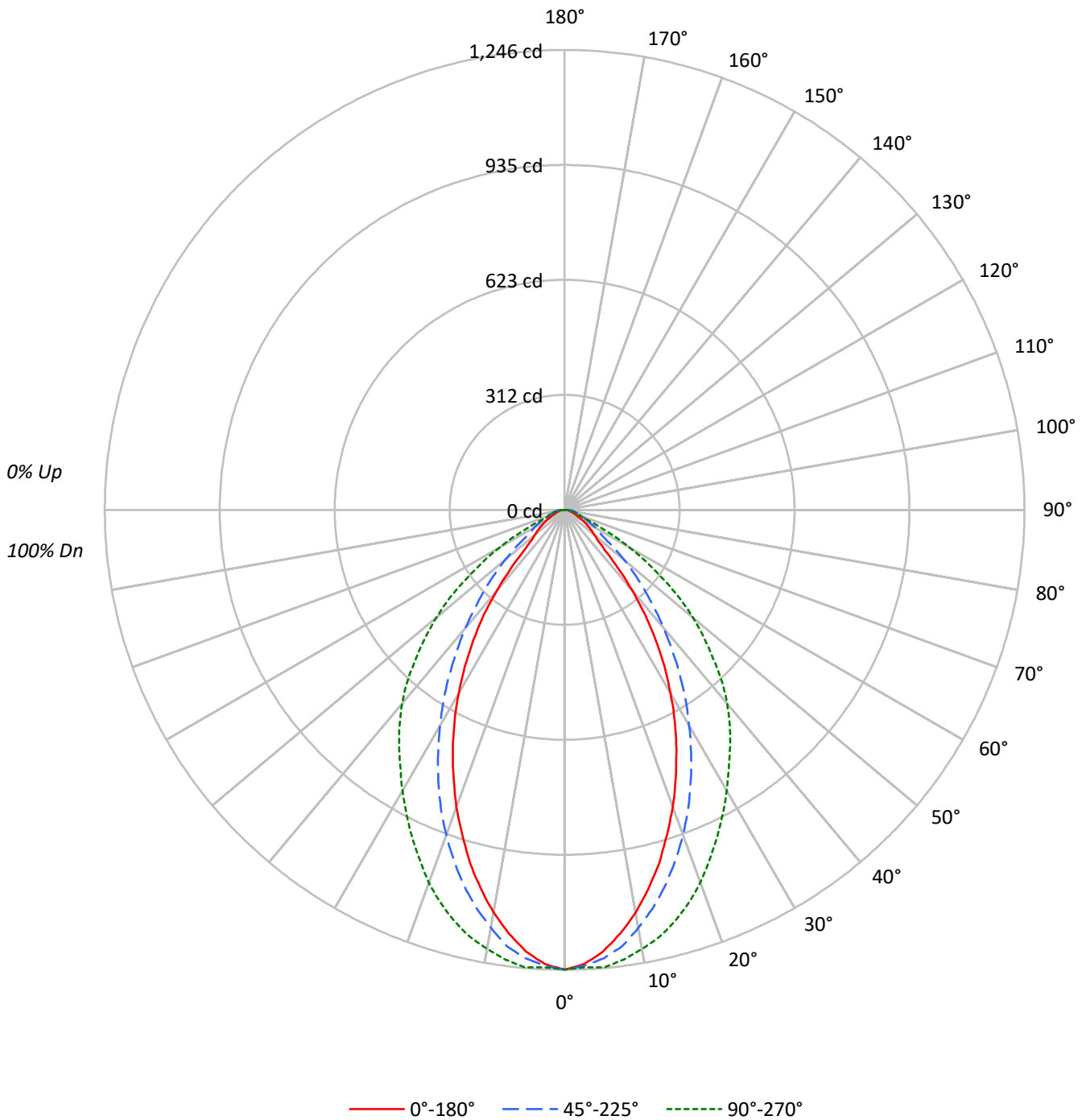
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1672.0 lumens  
Efficiency: N/A  
Efficacy: 45.8 lumens/watt  
Spacing Criteria (0/90/45): 0.83 / 1.08 / 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	111	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	91	89
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81	79
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	71
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	66	64
5	85	74	67	61	83	73	66	61	71	65	60	69	64	60	68	63	59	58
6	79	68	61	55	78	67	60	55	66	59	55	64	59	54	63	58	54	52
7	74	63	56	51	73	62	55	50	61	55	50	60	54	50	58	53	49	48
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44
9	66	54	47	43	65	54	47	43	53	47	42	52	46	42	51	46	42	40
10	62	51	44	39	61	50	44	39	49	43	39	49	43	39	48	43	39	37

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

	0°	45°	90°
0°	14625	14625	14625
5°	14153	14371	14663
10°	13209	13707	14408
15°	12038	12809	14031
20°	10712	11716	13437
25°	9282	10484	12670
30°	7783	9147	11916
35°	6165	7785	11201
40°	4364	6404	10506
45°	2569	5062	9456
50°	1922	3844	8281
55°	1615	2598	6651
60°	1308	2217	4723
65°	1031	1892	2492
70°	903	1648	1542
75°	844	1543	1475
80°	839	1677	1467
85°	1037	2506	1873

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 9456 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.6	6.9
10°-20°	297.9	17.8
20°-30°	379.4	22.7
30°-40°	356.9	21.3
40°-50°	257.0	15.4
50°-60°	148.4	8.9
60°-70°	67.9	4.1
70°-80°	33.9	2.0
80°-90°	16.0	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°	791.9	47.4
0°-40°	1148.8	68.7
0°-60°	1554.2	93.0
0°-90°	1672.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1672.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1246	1246	1246	1246	1246	
5°	1201	1221	1219	1232	1244	112
15°	990	1026	1054	1112	1154	276
25°	716	754	809	899	978	328
35°	430	467	543	668	781	267
45°	155	193	305	458	569	131
55°	79	82	127	241	325	71
65°	37	53	68	76	90	38
75°	19	36	34	32	32	20
85°	8	17	19	17	14	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1245.5	1245.5	1245.5	1245.5	1245.5
2.5°	1231.6	1247.1	1236.2	1237.8	1240.9
5°	1200.7	1220.8	1219.2	1231.6	1244.0
7.5°	1157.3	1180.5	1192.9	1211.5	1228.5
10°	1107.8	1134.1	1149.6	1183.6	1208.4
12.5°	1050.6	1084.6	1104.7	1149.6	1185.2
15°	990.2	1025.8	1053.7	1112.5	1154.2
17.5°	922.2	960.8	996.4	1066.0	1117.1
20°	857.2	894.3	937.6	1013.4	1075.3
22.5°	786.0	826.2	875.7	956.2	1025.8
25°	716.4	753.5	809.2	898.9	977.9
27.5°	646.7	683.9	742.7	841.7	928.3
30°	574.0	612.7	674.6	784.4	878.8
32.5°	502.9	540.0	609.6	728.7	827.8
35°	430.1	467.3	543.1	668.4	781.4
37.5°	359.0	397.6	478.1	618.9	734.9
40°	284.7	326.5	417.8	567.8	685.4
42.5°	215.1	259.9	357.4	515.2	631.3
45°	154.7	193.4	304.8	458.0	569.4
47.5°	120.7	140.8	256.8	399.2	512.1
50°	105.2	108.3	210.4	345.0	453.3
52.5°	91.3	94.4	165.6	294.0	391.5
55°	78.9	82.0	126.9	241.4	324.9
57.5°	66.5	71.2	105.2	191.9	261.5
60°	55.7	61.9	94.4	147.0	201.1
62.5°	44.9	55.7	80.5	108.3	143.9
65°	37.1	52.6	68.1	75.8	89.7
67.5°	30.9	48.0	57.2	54.2	52.6
70°	26.3	43.3	48.0	43.3	44.9
72.5°	21.7	40.2	40.2	37.1	37.1
75°	18.6	35.6	34.0	32.5	32.5
77.5°	15.5	30.9	29.4	27.9	26.3
80°	12.4	24.8	24.8	23.2	21.7
82.5°	10.8	20.1	20.1	20.1	17.0
85°	7.7	17.0	18.6	17.0	13.9
87.5°	6.2	15.5	15.5	13.9	9.3
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	9.29	10.61	9.66	10.92	11.24	16.66	17.97	17.02	18.29	18.60
	3H	10.68	11.85	11.06	12.18	12.55	16.89	18.06	17.27	18.39	18.75
	4H	11.23	12.33	11.64	12.68	13.06	17.00	18.09	17.40	18.44	18.83
	6H	11.67	12.67	12.08	13.04	13.44	17.12	18.12	17.53	18.49	18.88
	8H	11.85	12.80	12.28	13.19	13.59	17.17	18.12	17.60	18.51	18.91
	12H	12.00	12.91	12.43	13.29	13.72	17.23	18.13	17.66	18.52	18.95
4H	2H	10.39	11.48	10.80	11.83	12.22	16.61	17.70	17.02	18.05	18.44
	3H	12.05	12.95	12.47	13.35	13.75	16.97	17.87	17.39	18.27	18.67
	4H	12.87	13.66	13.30	14.08	14.53	17.17	17.97	17.61	18.39	18.83
	6H	13.50	14.19	13.96	14.64	15.10	17.40	18.09	17.86	18.54	19.00
	8H	13.74	14.38	14.20	14.83	15.30	17.50	18.15	17.97	18.60	19.07
	12H	13.95	14.52	14.43	15.00	15.48	17.63	18.20	18.12	18.68	19.16
8H	4H	13.31	13.95	13.78	14.40	14.87	17.21	17.85	17.68	18.30	18.77
	6H	14.22	14.75	14.72	15.24	15.73	17.54	18.07	18.04	18.56	19.04
	8H	14.64	15.11	15.16	15.63	16.12	17.73	18.20	18.25	18.72	19.21
	12H	15.05	15.48	15.57	15.97	16.54	17.98	18.40	18.49	18.89	19.46
12H	4H	13.36	13.94	13.85	14.42	14.89	17.20	17.77	17.68	18.25	18.73
	6H	14.35	14.83	14.87	15.35	15.84	17.55	18.03	18.07	18.55	19.04
	8H	14.89	15.31	15.41	15.81	16.38	17.81	18.23	18.32	18.73	19.30