

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: P1059521

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

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059521  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-68)  
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-S  
Description: DEFINE 3 SILVER REGRESSED DIRECT RECESSED HOUSING WITH SILVER STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

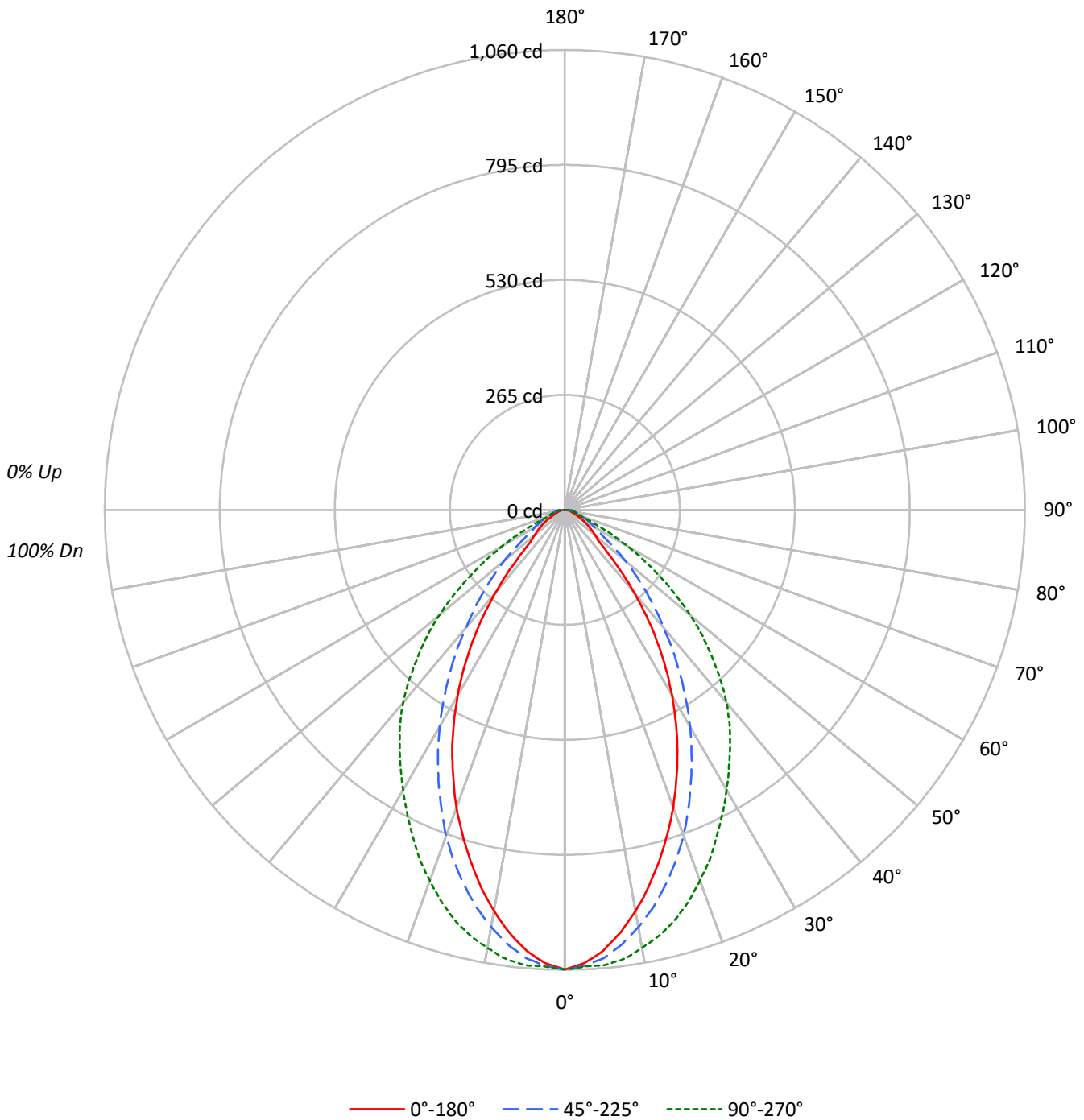
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1419.1 lumens  
Efficiency: N/A  
Efficacy: 38.9 lumens/watt  
Spacing Criteria (0/90/45): 0.83 / 1.07 / 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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	111	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89				89
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81	79				79
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	71				71
4	91	81	74	69	88	80	73	68	77	72	67	75	70	66	73	69	66	64				64
5	85	74	67	61	83	73	66	61	71	65	61	69	64	60	68	63	59	58				58
6	79	68	61	56	78	67	60	55	66	60	55	64	59	54	63	58	54	52				52
7	74	63	56	51	73	62	55	50	61	55	50	60	54	50	58	53	49	48				48
8	70	58	51	46	69	58	51	46	57	50	46	56	50	46	54	49	45	44				44
9	66	54	47	43	65	54	47	43	53	47	42	52	46	42	51	46	42	40				40
10	62	51	44	39	61	50	44	39	50	43	39	49	43	39	48	43	39	37				37

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

	0°	45°	90°
0°	12442	12442	12442
5°	12016	12216	12417
10°	11195	11639	12229
15°	10192	10888	11904
20°	9123	9993	11366
25°	7956	8919	10742
30°	6690	7824	10110
35°	5321	6630	9513
40°	3794	5406	8892
45°	2260	4341	7963
50°	1668	3307	6894
55°	1394	2248	5478
60°	1127	1853	3852
65°	903	1589	2062
70°	745	1380	1274
75°	703	1334	1193
80°	730	1467	1150
85°	1037	2088	1455

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 7963 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	97.3	6.9
10°-20°	252.9	17.8
20°-30°	322.5	22.7
30°-40°	303.4	21.4
40°-50°	218.0	15.4
50°-60°	125.0	8.8
60°-70°	57.2	4.0
70°-80°	28.7	2.0
80°-90°	14.0	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°	672.7	47.4
0°-40°	976.2	68.8
0°-60°	1319.2	93.0
0°-90°	1419.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1419.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1060	1060	1060	1060	1060	
5°	1019	1040	1036	1044	1053	95
15°	838	868	896	944	979	234
25°	614	642	688	763	829	280
35°	371	398	462	568	664	230
45°	136	166	261	385	480	114
55°	68	70	110	203	268	61
65°	32	45	57	63	74	33
75°	16	31	29	26	26	17
85°	8	16	16	14	11	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1059.6	1059.6	1059.6	1059.6	1059.6
2.5°	1045.7	1061.1	1051.9	1051.9	1053.4
5°	1019.4	1039.5	1036.4	1044.1	1053.4
7.5°	982.3	1003.9	1010.1	1028.7	1044.1
10°	938.9	963.7	976.1	1005.5	1025.6
12.5°	891.0	918.8	938.9	976.1	1005.5
15°	838.4	867.8	895.6	943.6	979.2
17.5°	784.3	813.6	849.2	904.9	946.7
20°	730.1	759.5	799.7	858.5	909.6
22.5°	671.3	700.7	744.0	810.6	872.4
25°	614.1	641.9	688.4	762.6	829.1
27.5°	553.8	581.6	632.7	713.1	787.4
30°	493.4	521.3	577.0	663.6	745.6
32.5°	433.1	459.4	519.7	615.7	703.8
35°	371.2	397.5	462.5	567.7	663.6
37.5°	307.8	334.1	409.9	524.4	623.4
40°	247.5	276.9	352.7	481.1	580.1
42.5°	188.7	219.7	306.3	434.7	530.6
45°	136.1	165.5	261.4	385.2	479.5
47.5°	103.6	119.1	221.2	335.7	430.0
50°	91.3	92.8	181.0	290.8	377.4
52.5°	78.9	80.4	140.8	247.5	321.7
55°	68.1	69.6	109.8	202.6	267.6
57.5°	57.2	60.3	89.7	160.9	215.0
60°	48.0	54.1	78.9	122.2	164.0
62.5°	38.7	49.5	68.1	89.7	117.6
65°	32.5	44.9	57.2	63.4	74.2
67.5°	26.3	41.8	48.0	44.9	44.9
70°	21.7	37.1	40.2	37.1	37.1
72.5°	18.6	35.6	34.0	30.9	30.9
75°	15.5	30.9	29.4	26.3	26.3
77.5°	13.9	26.3	24.7	23.2	21.7
80°	10.8	21.7	21.7	20.1	17.0
82.5°	9.3	18.6	18.6	17.0	13.9
85°	7.7	15.5	15.5	13.9	10.8
87.5°	6.2	13.9	13.9	12.4	7.7
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	8.74	10.06	9.11	10.37	10.69	15.97	17.29	16.33	17.60	17.91
	3H	10.14	11.31	10.52	11.64	12.01	16.20	17.37	16.58	17.70	18.07
	4H	10.70	11.79	11.11	12.15	12.53	16.31	17.40	16.71	17.75	18.13
	6H	11.16	12.17	11.58	12.54	12.93	16.42	17.42	16.83	17.79	18.18
	8H	11.35	12.30	11.78	12.69	13.10	16.47	17.41	16.90	17.81	18.21
	12H	11.54	12.45	11.97	12.83	13.26	16.52	17.42	16.95	17.81	18.24
4H	2H	9.81	10.90	10.22	11.25	11.64	15.93	17.02	16.33	17.37	17.75
	3H	11.51	12.40	11.92	12.80	13.21	16.30	17.19	16.71	17.59	18.00
	4H	12.34	13.14	12.77	13.56	14.00	16.48	17.28	16.92	17.70	18.14
	6H	13.00	13.69	13.46	14.13	14.60	16.70	17.39	17.17	17.84	18.31
	8H	13.25	13.90	13.72	14.35	14.82	16.80	17.45	17.27	17.90	18.37
	12H	13.51	14.08	13.99	14.56	15.04	16.92	17.49	17.41	17.97	18.45
8H	4H	12.77	13.42	13.24	13.87	14.34	16.52	17.17	16.99	17.62	18.09
	6H	13.73	14.26	14.23	14.75	15.23	16.86	17.39	17.36	17.88	18.36
	8H	14.19	14.67	14.72	15.19	15.68	17.05	17.52	17.57	18.04	18.53
	12H	14.67	15.10	15.19	15.59	16.16	17.28	17.70	17.79	18.20	18.77
12H	4H	12.83	13.41	13.32	13.89	14.36	16.52	17.09	17.00	17.57	18.05
	6H	13.88	14.35	14.40	14.87	15.36	16.88	17.36	17.41	17.88	18.37
	8H	14.47	14.89	14.98	15.39	15.96	17.14	17.57	17.66	18.06	18.63