

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: P1059454

Luminaire Tested: S123RDR-H1000D930-X4F0-XX-UDD-BVL-B

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059454  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-30)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDR-H1000D930-X4F0-XX-UDD-BVL-B  
Description: DEFINE 3 BLACK REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

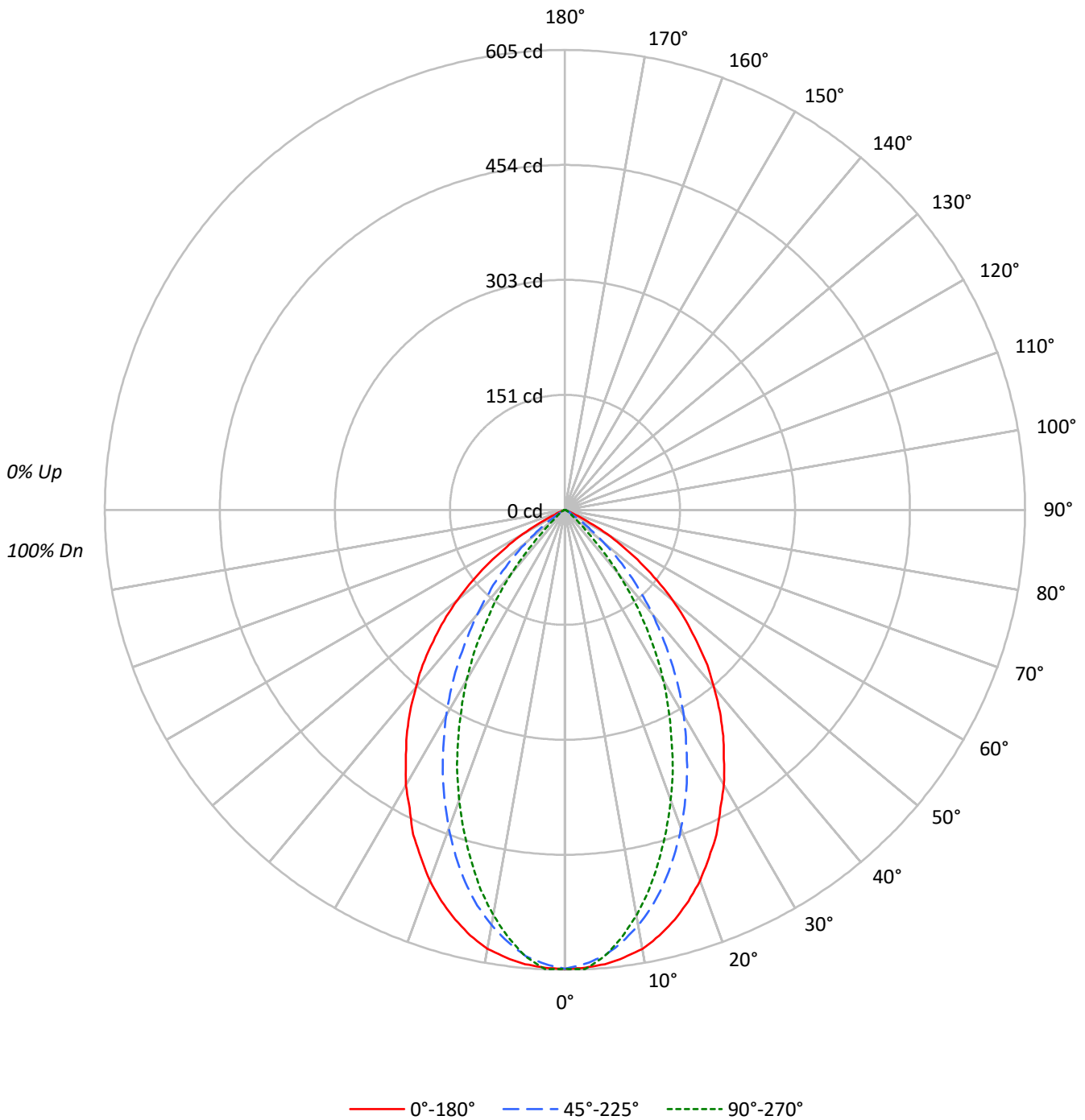
Lumens per Lamp: N/A  
Luminaire Lumens: 689.1 lumens  
Efficiency: N/A  
Efficacy: 22.1 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 0.81 / 0.94  
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')  
CIE Type: Direct

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	113	110	107	104	110	107	105	103	103	101	100	100	98	97	96	95	94	92
2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	87	85	84
3	100	92	87	82	98	91	86	82	88	84	80	86	82	79	83	80	78	76
4	94	85	79	74	92	84	78	74	82	77	73	80	75	72	78	74	71	69
5	88	79	72	67	86	78	71	67	76	70	66	74	69	65	72	68	65	63
6	83	73	66	61	81	72	66	61	70	65	60	69	64	60	67	63	60	58
7	78	68	61	56	77	67	60	56	66	60	56	64	59	55	63	58	55	53
8	74	63	56	52	72	62	56	51	61	55	51	60	55	51	59	54	51	49
9	70	59	52	48	68	58	52	48	57	52	47	56	51	47	55	51	47	46
10	66	55	49	44	65	55	48	44	54	48	44	53	48	44	52	47	44	42

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

	0°	45°	90°
0°	7090	7090	7090
5°	7072	6946	6957
10°	6991	6620	6458
15°	6785	6159	5804
20°	6488	5577	5080
25°	6110	4926	4296
30°	5669	4232	3508
35°	5199	3499	2606
40°	4666	2742	1669
45°	4069	2003	694
50°	3376	1189	267
55°	2487	497	199
60°	1508	183	115
65°	406	108	53
70°	0	34	34
75°	0	0	45
80°	0	0	0
85°	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4069 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	55.6	8.1
10°-20°	143.5	20.8
20°-30°	178.8	25.9
30°-40°	159.9	23.2
40°-50°	100.9	14.6
50°-60°	42.2	6.1
60°-70°	7.9	1.2
70°-80°	0.3	0.0
80°-90°	0.0	0.0
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°	377.8	54.8
0°-40°	537.7	78.0
0°-60°	680.8	98.8
0°-90°	689.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	689.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	604	604	604	604	604	
5°	600	599	589	591	590	57
15°	558	544	507	485	477	157
25°	472	434	380	347	332	216
35°	363	310	244	200	182	226
45°	245	191	121	64	42	189
55°	122	84	24	10	10	109
65°	15	11	4	2	2	21
75°	0	0	0	0	1	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	603.8	603.8	603.8	603.8	603.8
2.5°	602.9	603.8	598.0	603.8	604.8
5°	600.0	599.0	589.3	591.2	590.2
7.5°	594.1	591.2	573.7	569.8	567.9
10°	586.3	578.6	555.2	545.5	541.6
12.5°	573.7	563.0	532.9	517.3	511.5
15°	558.1	544.5	506.6	485.2	477.4
17.5°	539.7	520.2	477.4	454.1	442.4
20°	519.2	492.0	446.3	418.1	406.5
22.5°	494.9	464.8	413.3	383.1	370.5
25°	471.6	433.7	380.2	347.1	331.6
27.5°	442.4	402.6	345.2	311.2	294.6
30°	418.1	372.4	312.1	274.2	258.7
32.5°	388.9	341.3	278.1	236.3	221.7
35°	362.7	310.2	244.1	200.3	181.8
37.5°	334.5	280.0	210.0	164.3	146.8
40°	304.4	249.9	178.9	128.4	108.9
42.5°	277.1	219.8	147.8	95.3	75.8
45°	245.0	190.6	120.6	64.2	41.8
47.5°	215.9	163.4	91.4	36.0	22.4
50°	184.8	135.2	65.1	18.5	14.6
52.5°	152.7	107.9	42.8	12.6	11.7
55°	121.5	83.6	24.3	9.7	9.7
57.5°	91.4	60.3	12.6	7.8	6.8
60°	64.2	39.9	7.8	5.8	4.9
62.5°	37.0	23.3	5.8	3.9	3.9
65°	14.6	10.7	3.9	1.9	1.9
67.5°	1.0	2.9	1.9	1.0	1.0
70°	0.0	0.0	1.0	1.0	1.0
72.5°	0.0	0.0	1.0	1.0	1.0
75°	0.0	0.0	0.0	0.0	1.0
77.5°	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0
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	12.00	13.17	12.36	13.49	13.80	0.00	0.00	0.00	0.00	0.00
	3H	11.84	12.87	12.22	13.20	13.57	0.00	0.00	0.00	0.00	0.00
	4H	11.75	12.71	12.16	13.06	13.44	0.00	0.00	0.00	0.00	0.00
	6H	11.66	12.53	12.08	12.90	13.30	0.00	0.00	0.00	0.00	0.00
	8H	11.61	12.43	12.04	12.82	13.23	0.00	0.00	0.00	0.00	0.00
	12H	11.56	12.34	11.99	12.73	13.16	0.00	0.00	0.00	0.00	0.00
4H	2H	11.76	12.71	12.16	13.06	13.45	0.00	0.00	0.00	0.00	0.00
	3H	11.59	12.36	12.01	12.77	13.17	0.00	0.00	0.00	0.00	0.00
	4H	11.49	12.17	11.92	12.59	13.04	0.00	0.00	0.00	0.00	0.00
	6H	11.39	11.97	11.86	12.42	12.89	0.00	0.00	0.00	0.00	0.00
	8H	11.32	11.87	11.80	12.32	12.79	0.00	0.00	0.00	0.00	0.00
	12H	11.27	11.74	11.76	12.23	12.71	0.00	0.00	0.00	0.00	0.00
8H	4H	11.33	11.87	11.80	12.32	12.79	0.00	0.00	0.00	0.00	0.00
	6H	11.21	11.65	11.72	12.15	12.63	0.00	0.00	0.00	0.00	0.00
	8H	11.14	11.53	11.66	12.05	12.55	0.00	0.00	0.00	0.00	0.00
	12H	11.08	11.43	11.60	11.93	12.51	0.00	0.00	0.00	0.00	0.00
12H	4H	11.27	11.74	11.76	12.23	12.71	0.00	0.00	0.00	0.00	0.00
	6H	11.14	11.53	11.66	12.05	12.55	0.00	0.00	0.00	0.00	0.00
	8H	11.08	11.43	11.60	11.93	12.51	0.00	0.00	0.00	0.00	0.00