

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: P1059543

Luminaire Tested: S123RDR-H1165D930-X4F0-XX-UDD-WVL-W

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059543  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-64)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDR-H1165D930-X4F0-XX-UDD-WVL-W  
Description: DEFINE 3 WHITE REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

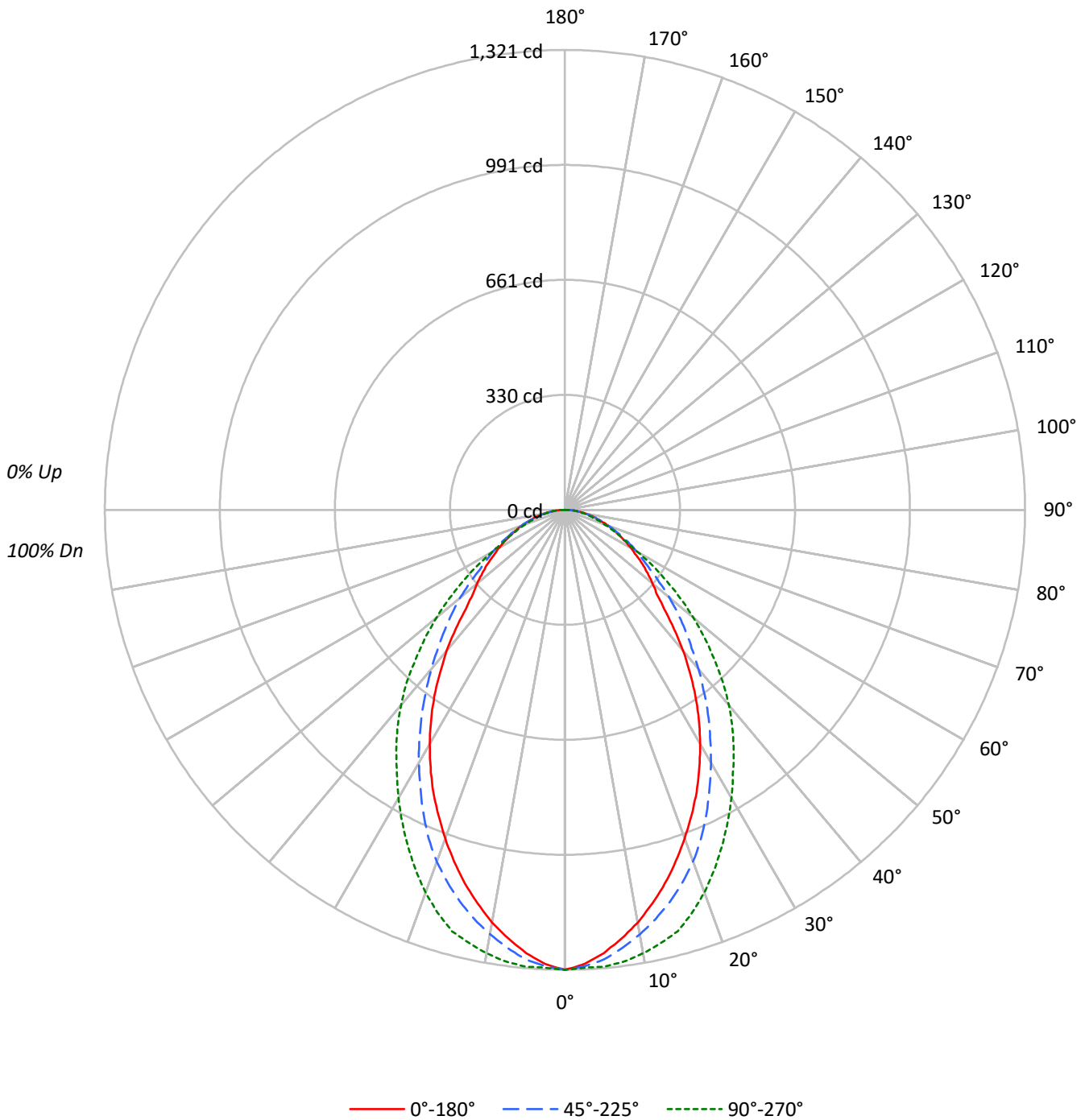
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2321.1 lumens  
Efficiency: N/A  
Efficacy: 63.6 lumens/watt  
Spacing Criteria (0/90/45): 0.94 / 1.1 / 1.09  
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				
1	110	106	102	99	108	104	101	97	100	97	94	96	94	92	92	91	89	87				
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75				
3	94	85	77	72	92	83	76	71	80	75	70	78	73	69	75	71	68	66				
4	87	76	69	63	85	75	68	62	73	66	61	70	65	61	68	64	60	58				
5	81	69	61	55	79	68	61	55	66	59	54	64	58	54	62	57	53	51				
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46				
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	41				
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38				
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34				
10	58	46	39	34	57	45	38	34	45	38	34	44	38	33	43	37	33	32				

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

	0°	45°	90°
0°	15511	15511	15511
5°	15061	15275	15517
10°	14354	14760	15424
15°	13501	14165	15229
20°	12557	13438	14617
25°	11591	12460	13815
30°	10527	11375	12962
35°	9369	10267	12107
40°	8086	9148	11222
45°	6682	8099	10062
50°	6001	7143	8783
55°	5562	6097	7284
60°	5127	5552	5580
65°	4768	5021	4673
70°	4487	4566	4099
75°	4228	4074	3611
80°	3996	3692	3381
85°	3826	4136	3826

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 10062 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.3	5.3
10°-20°	329.6	14.2
20°-30°	445.9	19.2
30°-40°	458.2	19.7
40°-50°	384.8	16.6
50°-60°	275.9	11.9
60°-70°	175.7	7.6
70°-80°	96.5	4.2
80°-90°	32.2	1.4
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°	897.8	38.7
0°-40°	1356.0	58.4
0°-60°	2016.7	86.9
0°-90°	2321.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2321.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1321	1321	1321	1321	1321	
5°	1278	1300	1296	1305	1316	120
15°	1111	1141	1165	1215	1253	311
25°	895	929	962	1014	1066	410
35°	654	689	716	780	845	407
45°	402	438	488	558	606	318
55°	272	277	298	338	356	243
65°	172	182	181	170	168	171
75°	93	102	90	83	80	99
85°	28	30	31	32	28	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1320.9	1320.9	1320.9	1320.9	1320.9
2.5°	1306.1	1324.3	1311.8	1312.9	1316.4
5°	1277.7	1300.4	1295.9	1305.0	1316.4
7.5°	1242.5	1267.5	1268.6	1290.2	1308.4
10°	1203.8	1230.0	1237.9	1270.9	1293.6
12.5°	1158.3	1186.8	1203.8	1244.7	1274.3
15°	1110.6	1141.3	1165.2	1215.2	1252.7
17.5°	1058.3	1091.3	1122.0	1175.4	1214.0
20°	1004.9	1040.1	1075.4	1125.4	1169.7
22.5°	949.2	985.6	1021.9	1070.8	1119.7
25°	894.6	928.7	961.7	1014.0	1066.3
27.5°	835.5	870.7	899.2	957.1	1011.7
30°	776.4	811.6	838.9	899.2	956.0
32.5°	715.0	751.4	776.4	838.9	898.0
35°	653.6	688.9	716.2	779.8	844.6
37.5°	588.8	627.5	654.8	726.4	790.0
40°	527.5	563.8	596.8	671.8	732.1
42.5°	463.8	501.3	538.8	616.1	671.8
45°	402.4	437.6	487.7	558.1	605.9
47.5°	358.1	380.8	438.8	497.9	543.4
50°	328.5	337.6	391.0	443.3	480.8
52.5°	299.0	305.8	342.2	389.9	418.3
55°	271.7	277.4	297.8	337.6	355.8
57.5°	242.1	247.8	264.9	287.6	297.8
60°	218.3	222.8	236.4	239.9	237.6
62.5°	194.4	201.2	208.0	200.1	196.7
65°	171.6	181.9	180.7	170.5	168.2
67.5°	151.2	161.4	155.7	145.5	142.1
70°	130.7	141.0	133.0	122.8	119.4
72.5°	111.4	122.8	110.3	101.2	98.9
75°	93.2	102.3	89.8	83.0	79.6
77.5°	76.2	83.0	71.6	65.9	63.7
80°	59.1	63.7	54.6	51.2	50.0
82.5°	43.2	45.5	39.8	42.1	40.9
85°	28.4	29.6	30.7	31.8	28.4
87.5°	13.6	19.3	19.3	18.2	14.8
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	16.71	18.17	17.07	18.49	18.80	17.78	19.24	18.14	19.56	19.87
	3H	18.41	19.72	18.79	20.05	20.41	18.86	20.17	19.24	20.50	20.87
	4H	19.06	20.29	19.46	20.64	21.02	19.27	20.49	19.67	20.84	21.22
	6H	19.56	20.70	19.98	21.07	21.46	19.58	20.71	19.99	21.08	21.47
	8H	19.74	20.82	20.16	21.21	21.61	19.71	20.79	20.14	21.18	21.58
	12H	19.86	20.89	20.29	21.28	21.71	19.83	20.86	20.26	21.25	21.67
4H	2H	17.31	18.54	17.71	18.89	19.27	18.18	19.41	18.58	19.76	20.14
	3H	19.24	20.26	19.65	20.66	21.06	19.50	20.52	19.91	20.92	21.32
	4H	20.05	20.97	20.48	21.38	21.82	20.02	20.94	20.45	21.35	21.79
	6H	20.70	21.50	21.16	21.94	22.40	20.45	21.25	20.91	21.69	22.15
	8H	20.92	21.67	21.39	22.11	22.58	20.64	21.39	21.11	21.83	22.30
	12H	21.09	21.76	21.58	22.24	22.71	20.83	21.49	21.31	21.97	22.44
8H	4H	20.29	21.03	20.75	21.48	21.95	20.27	21.01	20.73	21.46	21.92
	6H	21.08	21.69	21.57	22.18	22.66	20.81	21.43	21.31	21.92	22.40
	8H	21.39	21.94	21.91	22.45	22.94	21.09	21.64	21.61	22.15	22.64
	12H	21.66	22.15	22.17	22.64	23.21	21.38	21.87	21.89	22.36	22.93
12H	4H	20.30	20.96	20.78	21.44	21.91	20.29	20.96	20.78	21.44	21.91
	6H	21.11	21.66	21.63	22.17	22.66	20.87	21.42	21.38	21.93	22.42
	8H	21.49	21.98	22.00	22.47	23.03	21.21	21.70	21.72	22.19	22.76