

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: P1059568

Luminaire Tested: S123RDR-H1165D950-X4F0-XX-UDD-WVL-B

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059568  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-28)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDR-H1165D950-X4F0-XX-UDD-WVL-B  
Description: DEFINE 3 BLACK REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: -

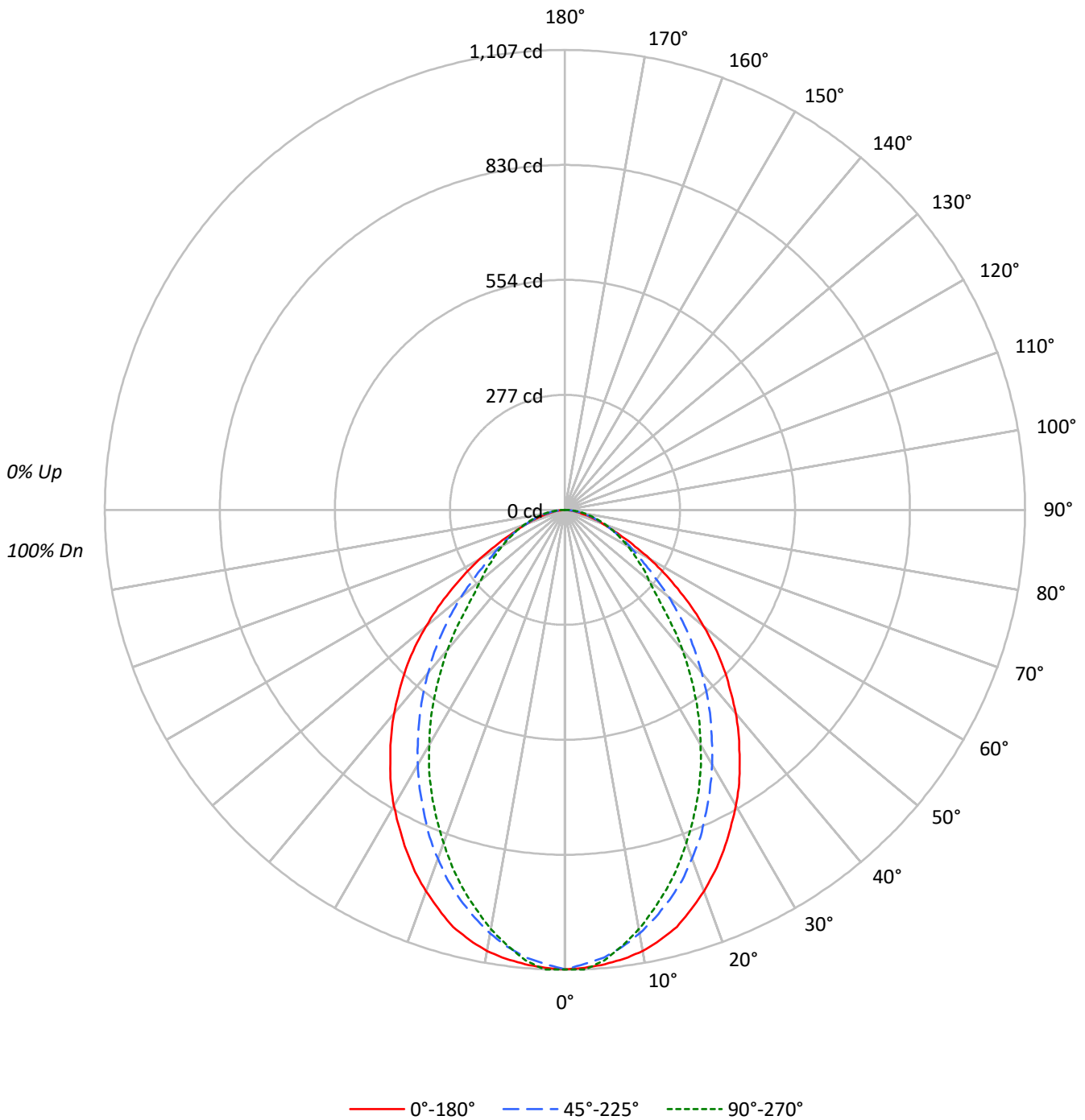
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1934.2 lumens  
Efficiency: N/A  
Efficacy: 53.0 lumens/watt  
Spacing Criteria (0/90/45): 1.12 / 0.95 / 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	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	88				
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76				
3	94	85	78	73	92	84	77	72	81	75	71	78	73	69	76	72	68	66				
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58				
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52				
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	53	48	47				
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44	42				
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38				
9	62	50	42	37	61	49	42	37	48	41	37	47	41	37	46	41	37	35				
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32				

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

	0°	45°	90°
0°	12986	12986	12986
5°	12941	12754	12832
10°	12854	12347	12219
15°	12637	11813	11489
20°	12209	11161	10664
25°	11711	10403	9817
30°	11156	9607	8850
35°	10499	8746	7831
40°	9801	7845	6745
45°	8984	6931	5540
50°	7965	5950	4808
55°	6776	4979	4408
60°	5526	4340	4089
65°	4209	3840	3804
70°	3286	3423	3560
75°	2654	3076	3316
80°	1975	2516	3057
85°	1078	1617	2681

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8984 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.7	5.3
10°-20°	276.2	14.3
20°-30°	375.5	19.4
30°-40°	389.2	20.1
40°-50°	328.3	17.0
50°-60°	233.0	12.0
60°-70°	142.4	7.4
70°-80°	70.9	3.7
80°-90°	16.1	0.8
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°	754.3	39.0
0°-40°	1143.6	59.1
0°-60°	1704.9	88.1
0°-90°	1934.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1934.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1106	1106	1106	1106	1106	
5°	1098	1098	1082	1089	1089	104
15°	1040	1020	972	954	945	292
25°	904	864	803	774	758	415
35°	732	677	610	568	546	458
45°	541	484	417	360	334	415
55°	331	296	243	222	215	297
65°	152	146	138	138	137	155
75°	58	62	68	70	73	63
85°	8	9	12	17	20	11
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1105.9	1105.9	1105.9	1105.9	1105.9
2.5°	1103.3	1104.6	1094.0	1105.9	1107.2
5°	1097.9	1097.9	1082.0	1088.6	1088.6
7.5°	1090.0	1087.3	1060.7	1060.7	1058.1
10°	1078.0	1070.0	1035.5	1028.8	1024.8
12.5°	1060.7	1047.4	1004.9	992.9	985.0
15°	1039.5	1019.5	971.7	954.4	945.1
17.5°	1008.9	988.9	935.8	911.9	901.2
20°	977.0	947.7	893.2	869.3	853.4
22.5°	942.4	905.2	852.0	822.8	805.5
25°	903.9	864.0	802.9	773.6	757.7
27.5°	862.7	818.8	756.3	723.1	707.2
30°	822.8	772.3	708.5	671.3	652.7
32.5°	780.3	723.1	658.0	619.4	600.8
35°	732.4	676.6	610.1	567.6	546.3
37.5°	687.2	630.1	560.9	515.7	491.8
40°	639.4	582.2	511.8	465.2	440.0
42.5°	588.8	534.4	465.2	410.7	386.8
45°	541.0	483.8	417.4	360.2	333.6
47.5°	489.2	436.0	370.9	312.4	293.8
50°	436.0	386.8	325.7	272.5	263.2
52.5°	384.1	342.9	280.5	245.9	241.9
55°	331.0	296.4	243.2	222.0	215.3
57.5°	281.8	256.5	208.7	198.1	195.4
60°	235.3	214.0	184.8	178.1	174.1
62.5°	190.1	178.1	160.8	158.2	155.5
65°	151.5	146.2	138.2	138.2	136.9
67.5°	119.6	119.6	118.3	121.0	119.6
70°	95.7	97.0	99.7	102.4	103.7
72.5°	75.8	79.8	82.4	86.4	87.7
75°	58.5	62.5	67.8	70.4	73.1
77.5°	42.5	46.5	51.8	55.8	58.5
80°	29.2	31.9	37.2	42.5	45.2
82.5°	18.6	19.9	23.9	29.2	31.9
85°	8.0	9.3	12.0	17.3	19.9
87.5°	0.0	0.0	1.3	5.3	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	17.72	19.17	18.08	19.48	19.79	15.81	17.26	16.18	17.58	17.89
	3H	18.61	19.91	18.99	20.24	20.60	17.39	18.68	17.77	19.01	19.37
	4H	18.90	20.11	19.30	20.46	20.84	17.98	19.20	18.38	19.54	19.92
	6H	19.05	20.16	19.46	20.53	20.92	18.43	19.55	18.85	19.92	20.31
	8H	19.07	20.13	19.50	20.52	20.92	18.58	19.65	19.01	20.04	20.44
	12H	19.06	20.08	19.49	20.46	20.89	18.68	19.70	19.11	20.08	20.51
4H	2H	17.96	19.17	18.36	19.52	19.90	16.36	17.57	16.76	17.92	18.30
	3H	19.07	20.07	19.48	20.48	20.88	18.13	19.13	18.54	19.53	19.93
	4H	19.46	20.36	19.90	20.78	21.22	18.84	19.74	19.27	20.16	20.60
	6H	19.70	20.48	20.16	20.93	21.39	19.41	20.19	19.87	20.63	21.10
	8H	19.75	20.48	20.21	20.92	21.39	19.60	20.33	20.07	20.78	21.24
	12H	19.76	20.40	20.24	20.88	21.36	19.74	20.39	20.23	20.87	21.34
8H	4H	19.62	20.35	20.09	20.79	21.26	19.05	19.78	19.52	20.22	20.69
	6H	19.93	20.53	20.43	21.03	21.50	19.73	20.32	20.22	20.82	21.30
	8H	20.01	20.55	20.53	21.06	21.55	19.98	20.52	20.50	21.03	21.52
	12H	20.04	20.52	20.56	21.01	21.58	20.19	20.66	20.70	21.16	21.72
12H	4H	19.63	20.27	20.11	20.75	21.23	19.05	19.69	19.53	20.17	20.65
	6H	19.95	20.49	20.46	21.00	21.49	19.73	20.27	20.25	20.78	21.27
	8H	20.06	20.54	20.57	21.03	21.60	20.04	20.51	20.55	21.00	21.57