

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: P1059510

Luminaire Tested: S123RDR-H1165D840-X4F0-XX-UDD-BVL-W

Issue Date: 8/7/2025

**Test Information**

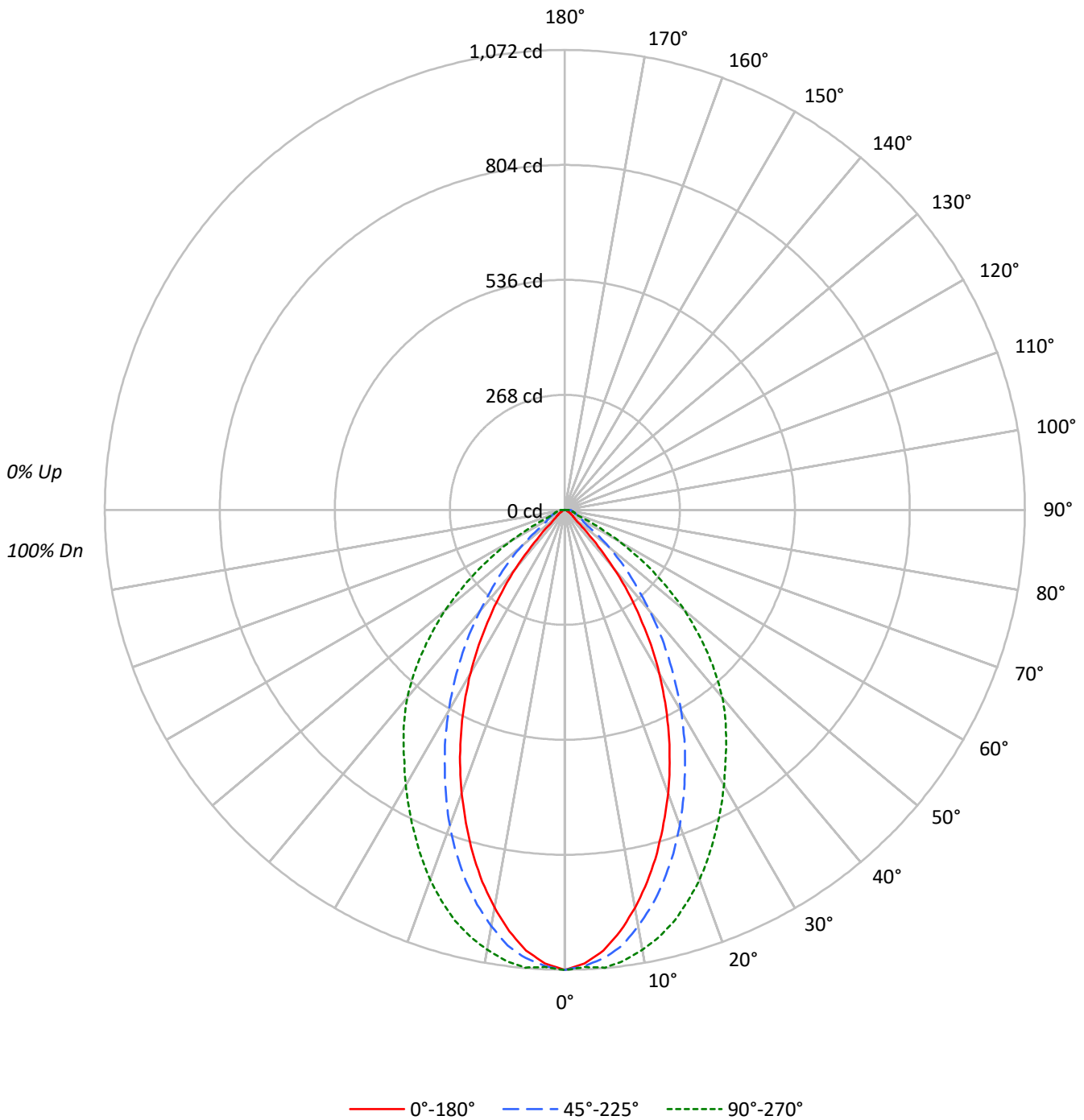
Test Method: LM-79-2019  
Report Number: P1059510  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-66)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDR-H1165D840-X4F0-XX-UDD-BVL-W  
Description: DEFINE 3 WHITE REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1287.6 lumens  
Efficiency: N/A  
Efficacy: 35.3 lumens/watt  
Spacing Criteria (0/90/45): 0.79 / 1.06 / 0.94  
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	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90
2	105	99	94	90	102	97	92	88	94	90	87	91	87	85	88	85	83	81
3	98	90	84	79	96	89	83	79	86	81	77	83	79	76	81	78	75	73
4	92	83	76	71	90	81	75	70	79	74	70	77	72	69	75	71	68	66
5	86	76	69	64	84	75	69	64	73	67	63	71	66	62	70	65	62	60
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	57	55
7	76	65	58	53	75	65	58	53	63	57	53	62	56	52	61	56	52	50
8	72	61	54	49	70	60	53	49	59	53	49	58	52	48	57	52	48	47
9	68	57	50	45	67	56	50	45	55	49	45	54	49	45	53	48	45	43
10	64	53	46	42	63	53	46	42	52	46	42	51	45	42	50	45	42	40

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

	0°	45°	90°
0°	12593	12593	12593
5°	12160	12359	12624
10°	11225	11746	12417
15°	10073	10862	12044
20°	8787	9791	11464
25°	7414	8582	10755
30°	5962	7338	10051
35°	4364	6041	9394
40°	2722	4709	8750
45°	1030	3511	7793
50°	490	2421	6642
55°	375	1327	5134
60°	265	1125	3375
65°	194	978	1409
70°	192	920	920
75°	254	957	957
80°	379	1143	1048
85°	754	1900	1522

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 7793 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.4	7.6
10°-20°	252.4	19.6
20°-30°	312.5	24.3
30°-40°	280.1	21.8
40°-50°	183.7	14.3
50°-60°	91.9	7.1
60°-70°	35.8	2.8
70°-80°	20.2	1.6
80°-90°	12.5	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°	663.4	51.5
0°-40°	943.5	73.3
0°-60°	1219.1	94.7
0°-90°	1287.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1287.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1072	1072	1072	1072	1072	
5°	1032	1048	1048	1060	1071	96
15°	829	862	894	953	991	231
25°	572	607	662	757	830	261
35°	304	345	421	548	655	190
45°	62	100	211	362	469	59
55°	18	22	65	178	251	17
65°	7	21	35	46	51	7
75°	6	21	21	21	21	6
85°	6	14	14	14	11	5
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1072.4	1072.4	1072.4	1072.4	1072.4
2.5°	1058.4	1073.9	1064.0	1065.4	1066.8
5°	1031.6	1048.5	1048.5	1059.8	1071.0
7.5°	990.7	1010.4	1024.5	1044.3	1059.8
10°	941.4	965.3	985.1	1020.3	1041.4
12.5°	887.8	917.4	942.8	989.3	1018.9
15°	828.6	862.5	893.5	952.7	990.7
17.5°	765.2	799.1	839.9	909.0	955.5
20°	703.2	737.0	783.5	861.1	917.4
22.5°	638.4	673.6	723.0	808.9	875.2
25°	572.2	607.4	662.4	756.8	830.1
27.5°	505.9	541.2	603.2	706.0	786.4
30°	439.7	474.9	541.2	651.1	741.3
32.5°	373.5	411.5	480.6	600.3	696.2
35°	304.4	345.3	421.4	548.2	655.3
37.5°	241.0	279.0	365.0	503.1	614.4
40°	177.6	218.4	307.2	459.4	570.8
42.5°	115.6	159.2	255.1	411.5	521.4
45°	62.0	100.1	211.4	362.2	469.3
47.5°	33.8	55.0	170.5	310.0	415.7
50°	26.8	31.0	132.5	264.9	363.6
52.5°	22.5	25.4	94.4	222.7	305.8
55°	18.3	22.5	64.8	177.6	250.8
57.5°	15.5	19.7	50.7	138.1	195.9
60°	11.3	16.9	47.9	101.5	143.7
62.5°	8.5	18.3	42.3	70.5	94.4
65°	7.0	21.1	35.2	46.5	50.7
67.5°	5.6	22.5	31.0	29.6	29.6
70°	5.6	21.1	26.8	25.4	26.8
72.5°	5.6	22.5	24.0	22.5	24.0
75°	5.6	21.1	21.1	21.1	21.1
77.5°	5.6	19.7	19.7	18.3	18.3
80°	5.6	16.9	16.9	16.9	15.5
82.5°	5.6	15.5	15.5	15.5	12.7
85°	5.6	14.1	14.1	14.1	11.3
87.5°	4.2	12.7	14.1	12.7	8.5
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	1.15	2.41	1.51	2.72	3.03	15.41	16.66	15.77	16.97	17.29
	3H	3.48	4.59	3.86	4.92	5.28	15.49	16.60	15.87	16.93	17.29
	4H	4.58	5.61	4.98	5.96	6.35	15.56	16.60	15.97	16.95	17.33
	6H	5.56	6.51	5.98	6.88	7.28	15.67	16.62	16.08	16.99	17.38
	8H	6.04	6.94	6.48	7.33	7.74	15.73	16.62	16.16	17.01	17.42
	12H	6.60	7.46	7.03	7.84	8.27	15.81	16.66	16.24	17.05	17.48
4H	2H	4.40	5.44	4.81	5.79	6.17	15.26	16.29	15.66	16.65	17.03
	3H	6.72	7.56	7.13	7.97	8.37	15.44	16.28	15.85	16.69	17.09
	4H	8.09	8.84	8.52	9.26	9.71	15.59	16.34	16.02	16.76	17.21
	6H	9.17	9.82	9.63	10.27	10.74	15.81	16.46	16.28	16.91	17.38
	8H	9.63	10.24	10.10	10.68	11.16	15.94	16.55	16.41	16.99	17.47
	12H	10.12	10.66	10.61	11.14	11.62	16.11	16.65	16.60	17.13	17.61
8H	4H	9.06	9.67	9.53	10.12	10.59	15.58	16.19	16.05	16.64	17.11
	6H	10.58	11.08	11.09	11.58	12.06	15.92	16.42	16.42	16.92	17.40
	8H	11.36	11.81	11.88	12.32	12.81	16.15	16.60	16.68	17.12	17.61
	12H	12.16	12.56	12.68	13.05	13.63	16.49	16.89	17.00	17.38	17.95
12H	4H	9.24	9.78	9.72	10.26	10.73	15.57	16.11	16.06	16.59	17.06
	6H	10.90	11.35	11.42	11.86	12.36	15.94	16.39	16.46	16.91	17.40
	8H	11.85	12.25	12.37	12.75	13.32	16.25	16.65	16.77	17.14	17.72