

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: P1059496

Luminaire Tested: S123RDR-H1165D830-X4F0-XX-UDD-WVL-B

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059496  
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-H1165D830-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: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

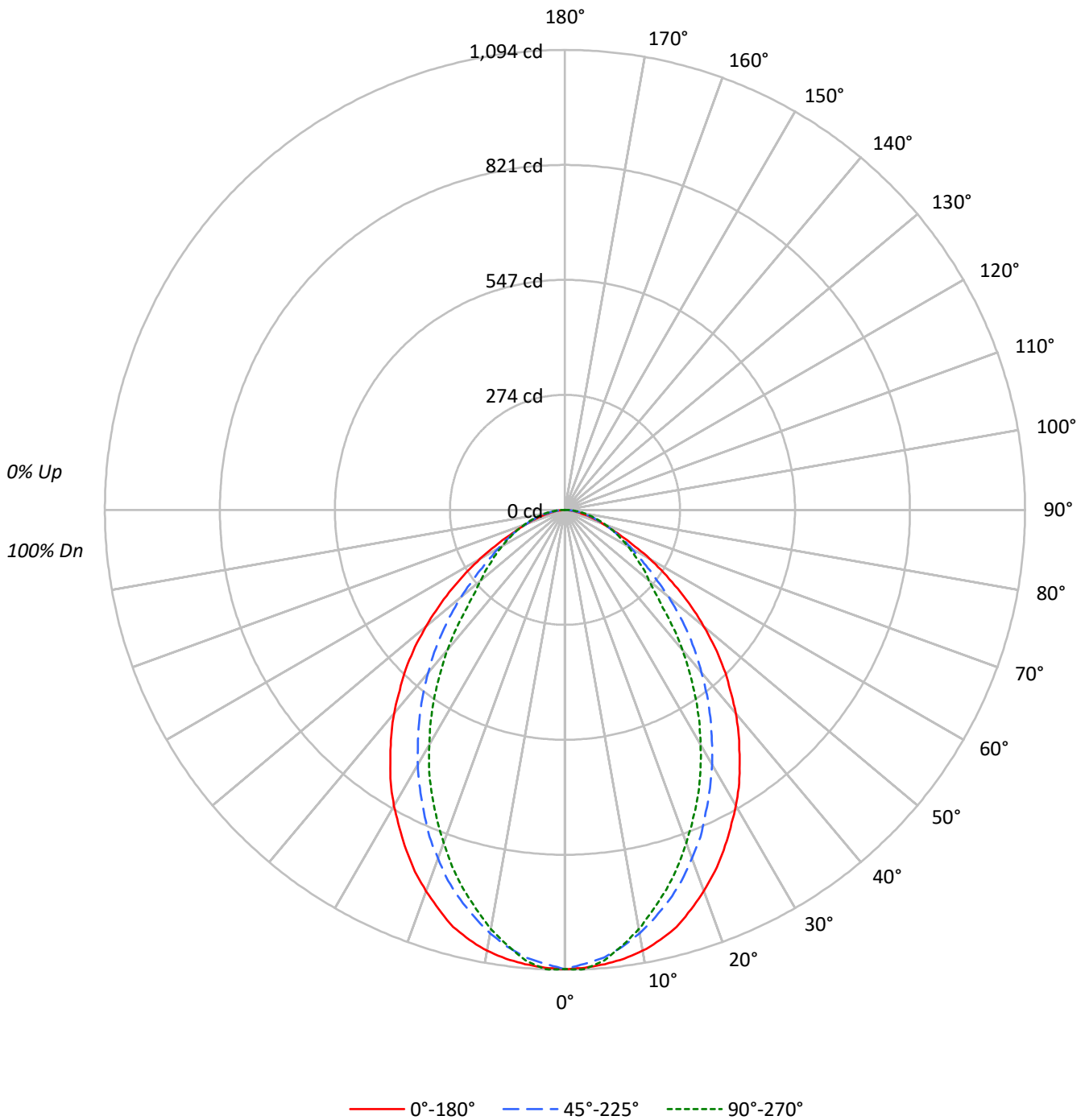
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1911.0 lumens  
Efficiency: N/A  
Efficacy: 52.4 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			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°	12830	12830	12830
5°	12787	12601	12678
10°	12700	12198	12073
15°	12485	11670	11351
20°	12061	11028	10535
25°	11570	10277	9699
30°	11022	9491	8743
35°	10373	8641	7738
40°	9683	7750	6663
45°	8876	6848	5473
50°	7870	5877	4750
55°	6694	4919	4354
60°	5458	4286	4039
65°	4159	3795	3759
70°	3248	3382	3516
75°	2622	3040	3276
80°	1954	2488	3023
85°	1064	1590	2654

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8876 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	101.4	5.3
10°-20°	272.9	14.3
20°-30°	371.0	19.4
30°-40°	384.6	20.1
40°-50°	324.3	17.0
50°-60°	230.2	12.0
60°-70°	140.7	7.4
70°-80°	70.0	3.7
80°-90°	15.9	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°	745.3	39.0
0°-40°	1129.8	59.1
0°-60°	1684.4	88.1
0°-90°	1911.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1911.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1093	1093	1093	1093	1093	
5°	1085	1085	1069	1076	1076	103
15°	1027	1007	960	943	934	288
25°	893	854	793	764	749	410
35°	724	668	603	561	540	453
45°	534	478	412	356	330	410
55°	327	293	240	219	213	294
65°	150	144	137	137	135	153
75°	58	62	67	70	72	62
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°	1092.6	1092.6	1092.6	1092.6	1092.6
2.5°	1090.0	1091.3	1080.8	1092.6	1093.9
5°	1084.8	1084.8	1069.0	1075.6	1075.6
7.5°	1076.9	1074.3	1048.0	1048.0	1045.4
10°	1065.1	1057.2	1023.0	1016.5	1012.5
12.5°	1048.0	1034.9	992.8	981.0	973.1
15°	1027.0	1007.3	960.0	942.9	933.7
17.5°	996.8	977.1	924.5	900.9	890.4
20°	965.2	936.4	882.5	858.9	843.1
22.5°	931.1	894.3	841.8	812.9	795.8
25°	893.0	853.6	793.2	764.3	748.6
27.5°	852.3	809.0	747.2	714.4	698.7
30°	812.9	763.0	700.0	663.2	644.8
32.5°	770.9	714.4	650.1	612.0	593.6
35°	723.6	668.5	602.8	560.8	539.8
37.5°	679.0	622.5	554.2	509.5	485.9
40°	631.7	575.2	505.6	459.6	434.7
42.5°	581.8	527.9	459.6	405.8	382.2
45°	534.5	478.0	412.4	355.9	329.6
47.5°	483.3	430.8	366.4	308.6	290.2
50°	430.8	382.2	321.7	269.2	260.0
52.5°	379.5	338.8	277.1	243.0	239.0
55°	327.0	292.9	240.3	219.3	212.7
57.5°	278.4	253.5	206.2	195.7	193.0
60°	232.4	211.4	182.5	176.0	172.0
62.5°	187.8	176.0	158.9	156.3	153.7
65°	149.7	144.5	136.6	136.6	135.3
67.5°	118.2	118.2	116.9	119.5	118.2
70°	94.6	95.9	98.5	101.1	102.4
72.5°	74.9	78.8	81.4	85.4	86.7
75°	57.8	61.7	67.0	69.6	72.2
77.5°	42.0	46.0	51.2	55.2	57.8
80°	28.9	31.5	36.8	42.0	44.7
82.5°	18.4	19.7	23.6	28.9	31.5
85°	7.9	9.2	11.8	17.1	19.7
87.5°	0.0	0.0	1.3	5.3	9.2
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	17.68	19.13	18.04	19.44	19.75	15.77	17.22	16.14	17.54	17.85
	3H	18.57	19.87	18.95	20.20	20.56	17.34	18.64	17.72	18.97	19.33
	4H	18.86	20.07	19.26	20.42	20.80	17.94	19.15	18.34	19.50	19.88
	6H	19.00	20.12	19.42	20.49	20.88	18.39	19.51	18.80	19.88	20.27
	8H	19.03	20.09	19.46	20.48	20.88	18.54	19.60	18.97	19.99	20.40
	12H	19.02	20.04	19.45	20.42	20.85	18.64	19.66	19.07	20.04	20.47
4H	2H	17.92	19.13	18.32	19.48	19.86	16.31	17.53	16.71	17.88	18.26
	3H	19.03	20.03	19.44	20.44	20.84	18.09	19.09	18.50	19.49	19.89
	4H	19.42	20.32	19.86	20.74	21.18	18.80	19.70	19.23	20.11	20.55
	6H	19.66	20.44	20.12	20.89	21.35	19.37	20.15	19.83	20.59	21.06
	8H	19.71	20.43	20.17	20.88	21.35	19.56	20.29	20.03	20.73	21.20
	12H	19.72	20.36	20.20	20.84	21.32	19.70	20.35	20.18	20.83	21.30
8H	4H	19.58	20.31	20.05	20.75	21.22	19.01	19.74	19.47	20.18	20.65
	6H	19.89	20.49	20.39	20.98	21.46	19.68	20.28	20.18	20.78	21.25
	8H	19.97	20.51	20.49	21.02	21.51	19.94	20.48	20.46	20.99	21.48
	12H	20.00	20.48	20.52	20.97	21.54	20.15	20.62	20.66	21.12	21.68
12H	4H	19.58	20.23	20.07	20.71	21.18	19.01	19.65	19.49	20.13	20.61
	6H	19.91	20.45	20.42	20.96	21.45	19.69	20.23	20.21	20.74	21.23
	8H	20.02	20.50	20.53	20.99	21.56	20.00	20.47	20.51	20.96	21.53