

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: P1059560

Luminaire Tested: S123RDR-H1165D940-X4F0-XX-UDD-WVL-S

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059560  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-67 )  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDR-H1165D940-X4F0-XX-UDD-WVL-S  
Description: DEFINE 3 SILVER REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

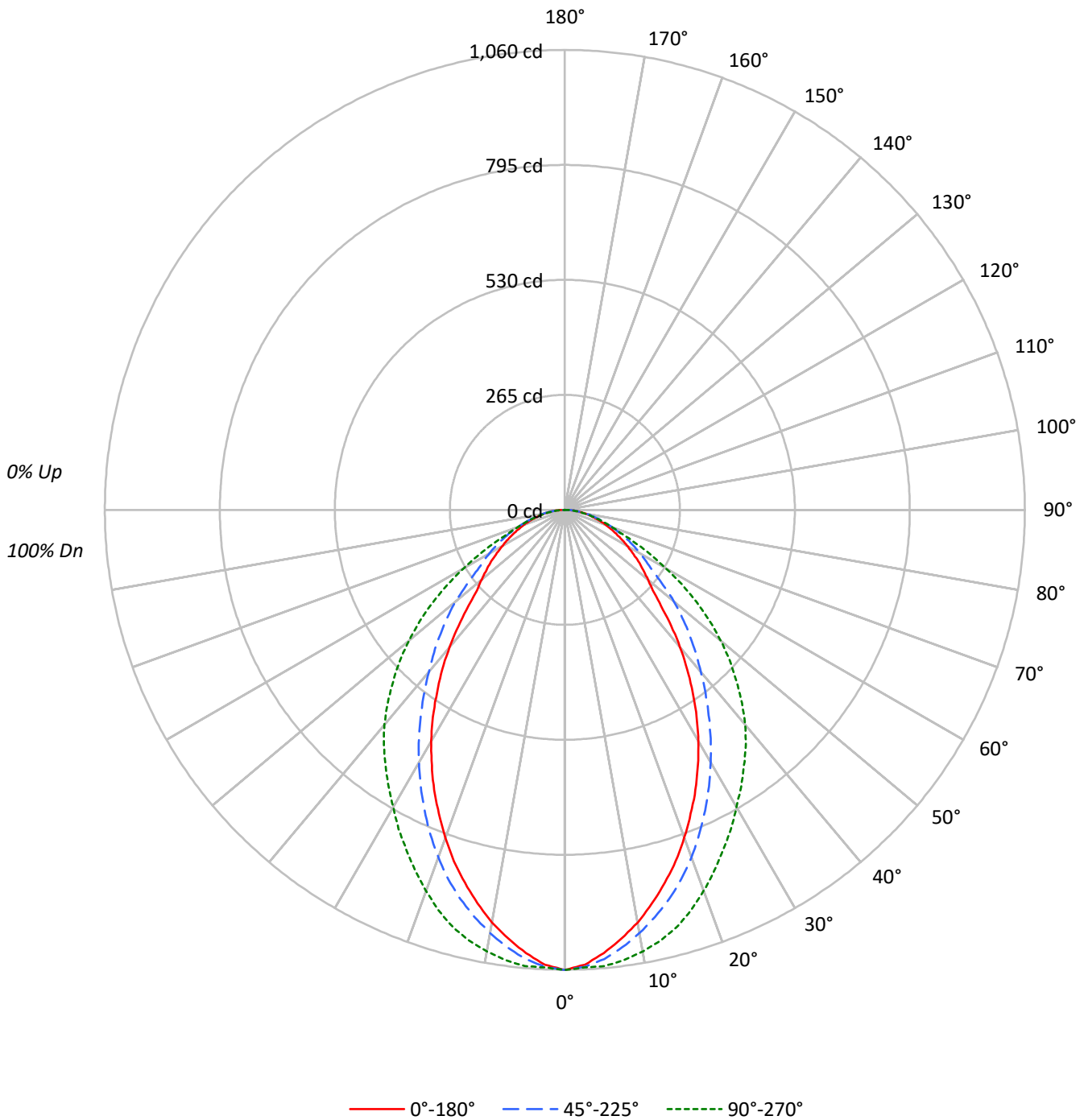
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1915.6 lumens  
Efficiency: N/A  
Efficacy: 52.5 lumens/watt  
Spacing Criteria (0/90/45): 0.93 / 1.12 / 1.1  
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	100	97	100	97	94	96	93	91	92	90	89	87				
2	102	94	88	83	99	92	87	82	89	84	80	86	82	78	83	80	77	75				
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	71	67	65				
4	87	76	68	62	84	74	67	61	72	66	61	70	64	60	68	63	59	57				
5	80	69	60	54	78	68	60	54	66	59	54	64	58	53	62	57	53	51				
6	75	63	54	48	73	62	54	48	60	53	48	58	52	47	57	51	47	45				
7	70	57	49	44	68	56	49	43	55	48	43	54	47	43	52	47	43	41				
8	65	53	45	39	64	52	45	39	51	44	39	50	43	39	48	43	39	37				
9	61	49	41	36	60	48	41	36	47	40	36	46	40	36	45	39	35	34				
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31				

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

	0°	45°	90°
0°	12452	12452	12452
5°	12089	12251	12441
10°	11518	11814	12318
15°	10821	11290	12106
20°	10051	10657	11683
25°	9230	9906	11194
30°	8344	9120	10721
35°	7360	8287	10318
40°	6326	7470	9910
45°	5203	6731	9290
50°	4565	5996	8562
55°	4225	5116	7585
60°	3882	4702	6278
65°	3626	4318	4940
70°	3416	3928	3928
75°	3217	3611	3385
80°	3029	3280	2860
85°	2843	3180	2183

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 9290 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.1	5.1
10°-20°	262.9	13.7
20°-30°	356.4	18.6
30°-40°	372.6	19.5
40°-50°	323.2	16.9
50°-60°	240.4	12.6
60°-70°	154.3	8.1
70°-80°	82.7	4.3
80°-90°	25.0	1.3
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°	717.3	37.4
0°-40°	1090.0	56.9
0°-60°	1653.6	86.3
0°-90°	1915.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1915.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1060	1060	1060	1060	1060	
5°	1026	1043	1039	1047	1056	96
15°	890	911	929	966	996	249
25°	712	735	765	816	864	327
35°	513	538	578	651	720	321
45°	313	337	405	492	559	246
55°	206	211	250	321	370	185
65°	130	142	155	165	178	130
75°	71	82	80	76	75	75
85°	21	26	24	20	16	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1060.4	1060.4	1060.4	1060.4	1060.4
2.5°	1049.3	1064.2	1054.2	1054.2	1055.5
5°	1025.6	1043.0	1039.3	1046.8	1055.5
7.5°	997.0	1015.7	1016.9	1034.3	1046.8
10°	966.0	984.6	990.8	1015.7	1033.1
12.5°	928.7	949.8	961.0	992.1	1016.9
15°	890.1	911.3	928.7	966.0	995.8
17.5°	849.1	870.2	892.6	934.9	967.2
20°	804.3	826.7	852.8	895.1	934.9
22.5°	758.3	782.0	809.3	855.3	900.1
25°	712.4	734.7	764.6	815.5	864.0
27.5°	663.9	687.5	718.6	774.5	829.2
30°	615.4	639.0	672.6	732.2	790.7
32.5°	565.7	589.3	625.3	692.5	755.9
35°	513.4	538.3	578.1	651.4	719.8
37.5°	463.7	487.3	532.1	612.9	685.0
40°	412.7	437.6	487.3	574.4	646.5
42.5°	363.0	387.9	446.3	533.3	604.2
45°	313.3	336.9	405.3	492.3	559.4
47.5°	274.7	292.2	366.7	448.8	515.9
50°	249.9	256.1	328.2	406.5	468.7
52.5°	227.5	232.5	285.9	364.3	420.2
55°	206.4	211.3	249.9	320.7	370.5
57.5°	185.2	191.5	222.5	276.0	320.7
60°	165.3	172.8	200.2	236.2	267.3
62.5°	147.9	156.6	177.8	200.2	221.3
65°	130.5	141.7	155.4	165.3	177.8
67.5°	114.4	126.8	134.3	136.8	138.0
70°	99.5	111.9	114.4	114.4	114.4
72.5°	84.5	98.2	95.7	94.5	93.2
75°	70.9	82.1	79.6	75.8	74.6
77.5°	57.2	67.1	63.4	60.9	57.2
80°	44.8	52.2	48.5	46.0	42.3
82.5°	33.6	38.5	34.8	32.3	28.6
85°	21.1	26.1	23.6	19.9	16.2
87.5°	11.2	14.9	12.4	11.2	6.2
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	15.55	17.03	15.91	17.34	17.66	18.30	19.79	18.67	20.10	20.42
	3H	17.26	18.59	17.64	18.92	19.28	19.33	20.65	19.70	20.98	21.34
	4H	17.92	19.17	18.32	19.51	19.89	19.69	20.94	20.09	21.28	21.66
	6H	18.42	19.57	18.83	19.94	20.33	19.94	21.09	20.36	21.46	21.85
	8H	18.60	19.69	19.03	20.08	20.49	20.02	21.11	20.44	21.50	21.90
	12H	18.73	19.77	19.16	20.16	20.58	20.05	21.10	20.48	21.48	21.91
4H	2H	16.32	17.57	16.72	17.92	18.30	18.58	19.82	18.98	20.17	20.55
	3H	18.25	19.28	18.66	19.68	20.09	19.83	20.86	20.24	21.26	21.66
	4H	19.06	19.99	19.49	20.41	20.85	20.32	21.25	20.75	21.66	22.10
	6H	19.70	20.51	20.16	20.95	21.41	20.70	21.51	21.16	21.95	22.41
	8H	19.93	20.68	20.39	21.13	21.60	20.81	21.56	21.27	22.01	22.48
	12H	20.10	20.78	20.58	21.26	21.73	20.88	21.55	21.36	22.03	22.50
8H	4H	19.38	20.13	19.84	20.58	21.05	20.51	21.26	20.97	21.71	22.18
	6H	20.17	20.80	20.67	21.29	21.77	21.00	21.62	21.49	22.11	22.59
	8H	20.50	21.06	21.01	21.57	22.06	21.17	21.73	21.69	22.24	22.73
	12H	20.78	21.27	21.29	21.77	22.33	21.30	21.80	21.82	22.29	22.86
12H	4H	19.40	20.08	19.89	20.56	21.03	20.52	21.20	21.01	21.68	22.15
	6H	20.23	20.79	20.74	21.30	21.79	21.03	21.59	21.55	22.10	22.59
	8H	20.62	21.12	21.13	21.61	22.17	21.26	21.76	21.77	22.25	22.82