

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: P1060649

Luminaire Tested: S124RDR-H1020D840-X4F0-XX-UDD-WVL-S

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1060649  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-76)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDR-H1020D840-X4F0-XX-UDD-WVL-S  
Description: DEFINE 4 SILVER REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

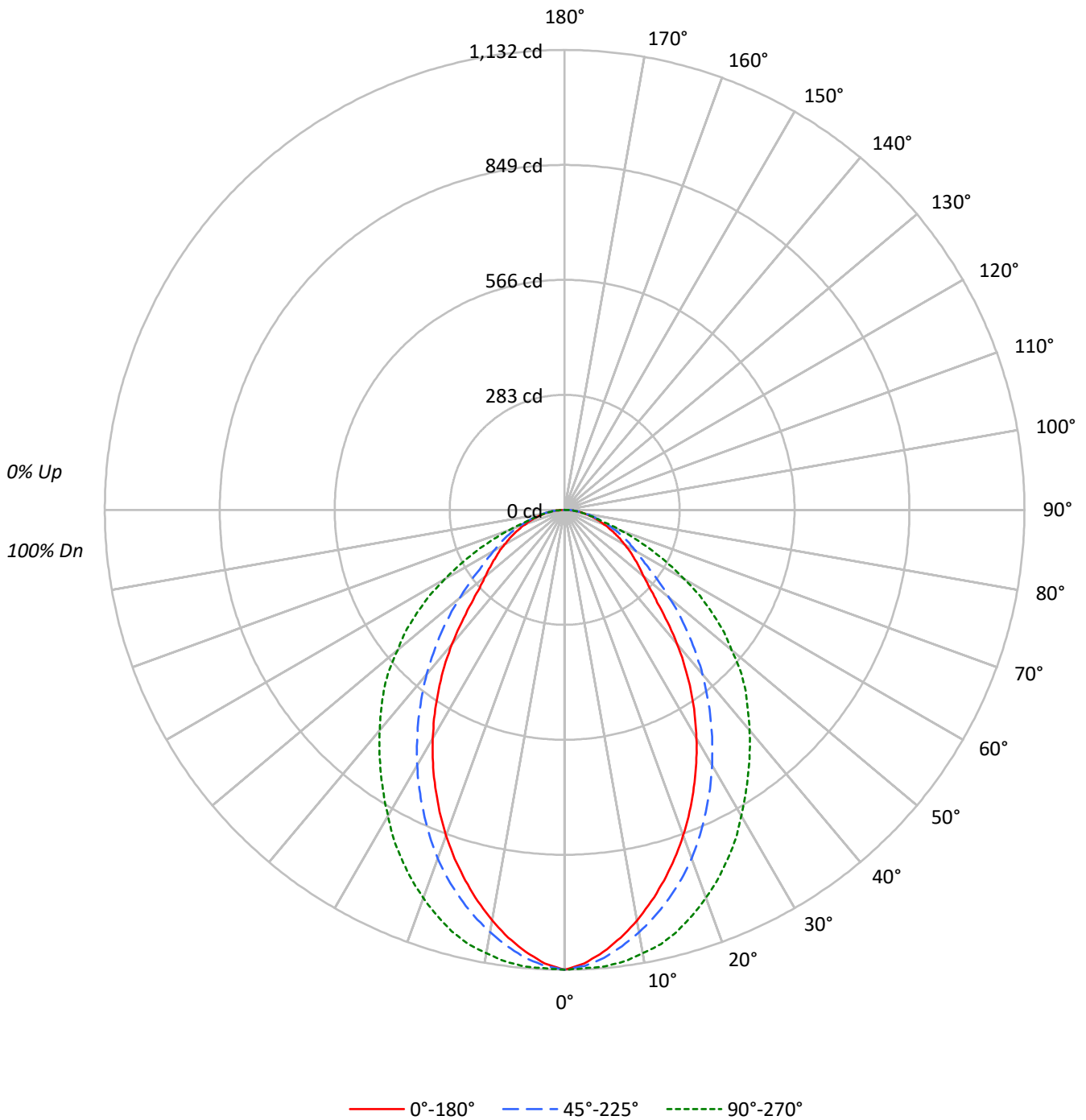
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2060.5 lumens  
Efficiency: N/A  
Efficacy: 66.0 lumens/watt  
Spacing Criteria (0/90/45): 0.93 / 1.15 / 1.1  
Luminous Opening: Rectangular (W 0.31' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.2  
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										
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	79	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	65	59	54	64	58	53	62	57	52	50																				
6	75	62	54	48	73	62	54	48	60	53	48	58	52	47	57	51	47	45																				
7	70	57	49	43	68	56	49	43	55	48	43	54	47	43	52	47	42	41																				
8	65	53	45	39	64	52	44	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	35	45	39	35	34																				
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	36	32	31																				

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

	0°	45°	90°
0°	9746	9746	9746
5°	9444	9568	9752
10°	8973	9233	9689
15°	8418	8831	9571
20°	7817	8371	9317
25°	7157	7801	9018
30°	6452	7219	8647
35°	5687	6585	8293
40°	4840	5934	7962
45°	3930	5244	7672
50°	3401	4513	7183
55°	3153	3830	6661
60°	2942	3453	5844
65°	2755	3240	4860
70°	2568	2986	3673
75°	2449	2761	2645
80°	2296	2529	2236
85°	2114	2342	1759

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 7672 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	104.5	5.1
10°-20°	280.9	13.6
20°-30°	383.5	18.6
30°-40°	401.8	19.5
40°-50°	347.8	16.9
50°-60°	261.3	12.7
60°-70°	168.5	8.2
70°-80°	86.4	4.2
80°-90°	25.8	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°	768.9	37.3
0°-40°	1170.7	56.8
0°-60°	1779.8	86.4
0°-90°	2060.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2060.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1132	1132	1132	1132	1132	
5°	1093	1109	1107	1115	1128	102
15°	944	968	991	1036	1074	265
25°	753	782	821	885	949	346
35°	541	572	626	709	789	337
45°	323	356	431	536	630	254
55°	210	217	255	364	444	189
65°	135	138	159	192	238	134
75°	74	82	83	82	80	78
85°	21	25	24	22	18	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1131.8	1131.8	1131.8	1131.8	1131.8
2.5°	1117.5	1131.8	1123.5	1125.8	1129.4
5°	1092.6	1109.2	1106.9	1115.2	1128.2
7.5°	1061.8	1079.6	1083.1	1102.1	1121.1
10°	1026.2	1046.4	1055.9	1084.3	1108.1
12.5°	987.0	1008.4	1025.0	1060.6	1095.0
15°	944.3	968.1	990.6	1035.7	1073.6
17.5°	900.4	924.2	953.8	1003.7	1046.4
20°	853.0	879.1	913.5	965.7	1016.7
22.5°	804.3	831.6	868.4	925.4	984.7
25°	753.3	781.8	821.0	885.0	949.1
27.5°	702.3	730.8	774.7	842.3	912.3
30°	648.9	678.6	726.0	799.6	869.6
32.5°	595.5	627.6	676.2	754.5	829.3
35°	541.0	571.8	626.4	709.4	788.9
37.5°	486.4	518.4	576.6	665.5	748.6
40°	430.6	463.9	527.9	621.6	708.3
42.5°	374.9	410.5	478.1	576.6	667.9
45°	322.7	355.9	430.6	536.2	630.0
47.5°	283.5	306.1	383.2	497.1	587.2
50°	253.9	265.7	336.9	454.4	536.2
52.5°	231.3	239.6	294.2	408.1	494.7
55°	210.0	217.1	255.1	364.2	443.7
57.5°	191.0	194.6	225.4	321.5	395.1
60°	170.8	174.4	200.5	275.2	339.3
62.5°	153.0	155.4	180.3	231.3	288.3
65°	135.2	137.6	159.0	192.2	238.5
67.5°	118.6	122.2	138.8	156.6	189.8
70°	102.0	109.1	118.6	126.9	145.9
72.5°	87.8	94.9	99.7	102.0	103.2
75°	73.6	81.9	83.0	81.9	79.5
77.5°	59.3	66.4	66.4	64.1	61.7
80°	46.3	52.2	51.0	48.6	45.1
82.5°	34.4	38.0	36.8	34.4	30.8
85°	21.4	24.9	23.7	22.5	17.8
87.5°	10.7	14.2	13.0	11.9	7.1
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	14.34	15.83	14.71	16.14	16.46	18.12	19.60	18.48	19.91	20.23
	3H	16.00	17.33	16.38	17.66	18.02	19.23	20.56	19.61	20.89	21.25
	4H	16.67	17.91	17.07	18.26	18.64	19.52	20.77	19.92	21.11	21.49
	6H	17.18	18.33	17.59	18.70	19.09	19.72	20.87	20.13	21.23	21.63
	8H	17.36	18.46	17.79	18.85	19.25	19.77	20.87	20.20	21.25	21.66
	12H	17.49	18.54	17.92	18.92	19.35	19.80	20.84	20.23	21.23	21.66
4H	2H	15.13	16.37	15.53	16.72	17.10	18.28	19.52	18.68	19.87	20.25
	3H	16.99	18.02	17.40	18.42	18.82	19.59	20.62	20.00	21.02	21.42
	4H	17.80	18.73	18.23	19.14	19.58	20.00	20.92	20.43	21.34	21.78
	6H	18.44	19.25	18.90	19.69	20.15	20.31	21.12	20.77	21.56	22.02
	8H	18.67	19.43	19.14	19.87	20.34	20.40	21.16	20.87	21.60	22.07
	12H	18.84	19.52	19.33	20.00	20.47	20.47	21.14	20.95	21.62	22.09
8H	4H	18.15	18.90	18.61	19.34	19.81	20.13	20.88	20.59	21.33	21.80
	6H	18.94	19.56	19.44	20.05	20.53	20.54	21.16	21.04	21.66	22.13
	8H	19.26	19.82	19.77	20.33	20.82	20.69	21.25	21.21	21.76	22.25
	12H	19.52	20.02	20.04	20.51	21.08	20.81	21.31	21.32	21.80	22.37
12H	4H	18.18	18.85	18.66	19.33	19.80	20.13	20.81	20.62	21.28	21.76
	6H	19.00	19.56	19.52	20.07	20.56	20.56	21.12	21.08	21.63	22.12
	8H	19.39	19.88	19.90	20.37	20.94	20.76	21.26	21.27	21.75	22.32