

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: P1060648

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

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1060648
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-37)
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-B
Description: DEFINE 4 BLACK 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

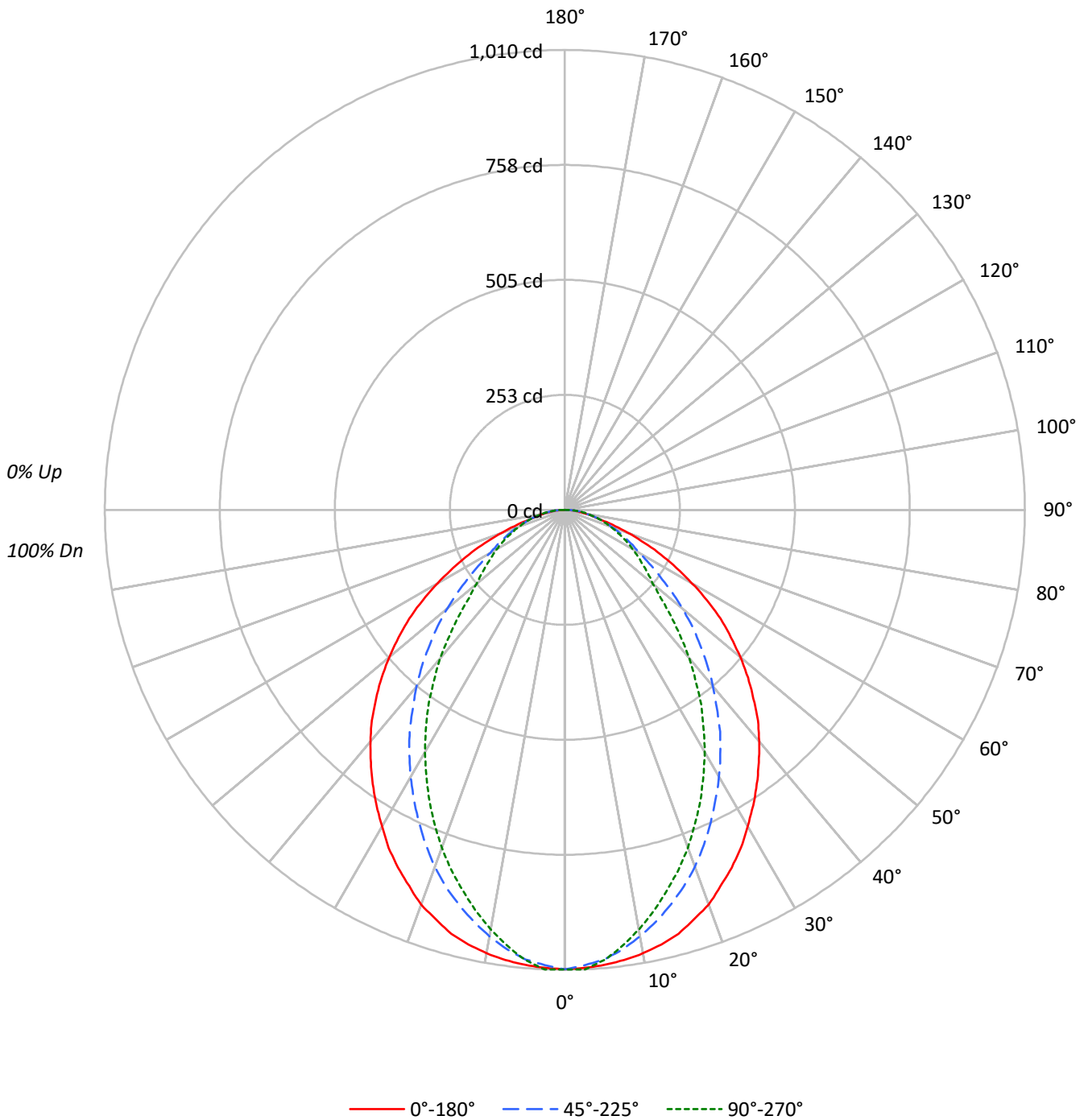
Lumens per Lamp: N/A
Luminaire Lumens: 1945.6 lumens
Efficiency: N/A
Efficacy: 62.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.96 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P1060648

CATALOG NUMBER: S124RDR-H1020D840-X4F0-XX-UDD-WVL-B

Luminous Intensity Polar Plot





TEST NUMBER: P1060648

CATALOG NUMBER: S124RDR-H1020D840-X4F0-XX-UDD-WVL-B

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			100																	
1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86			86																	
2	101	94	88	83	99	92	86	82	89	84	80	85	82	78	82	79	76	74			74																	
3	93	84	76	71	91	82	75	70	79	74	69	77	72	68	74	70	66	64			64																	
4	86	75	67	61	84	74	67	61	72	65	60	69	64	59	67	62	58	56			56																	
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50			50																	
6	74	62	54	48	72	61	53	47	59	52	47	58	51	47	56	51	46	44			44																	
7	69	57	48	43	68	56	48	43	54	47	42	53	47	42	52	46	42	40			40																	
8	65	52	44	39	63	51	44	39	50	43	38	49	43	38	48	42	38	36			36																	
9	61	48	40	35	59	48	40	35	46	40	35	45	39	35	44	39	35	33			33																	
10	57	45	37	32	56	44	37	32	43	37	32	42	36	32	41	36	32	30			30																	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8689	8689	8689
5°	8671	8568	8578
10°	8647	8315	8180
15°	8594	8002	7717
20°	8454	7649	7237
25°	8235	7199	6692
30°	7981	6732	6107
35°	7728	6244	5484
40°	7464	5691	4785
45°	7133	5111	3999
50°	6734	4511	3384
55°	6266	3827	3133
60°	5554	3246	2961
65°	4735	2995	2802
70°	3701	2777	2656
75°	2525	2565	2565
80°	2177	2410	2470
85°	1877	2342	2579

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7133 cd/sqm



TEST NUMBER: P1060648

CATALOG NUMBER: S124RDR-H1020D840-X4F0-XX-UDD-WVL-B

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.9	4.8
10°-20°	254.9	13.1
20°-30°	353.9	18.2
30°-40°	379.4	19.5
40°-50°	336.1	17.3
50°-60°	253.3	13.0
60°-70°	164.0	8.4
70°-80°	84.2	4.3
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°	702.8	36.1
0°-40°	1082.2	55.6
0°-60°	1671.6	85.9
0°-90°	1945.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1945.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1009	1009	1009	1009	1009	
5°	1003	1004	991	992	992	95
15°	964	943	898	875	866	271
25°	867	820	758	717	704	399
35°	735	669	594	541	522	460
45°	586	510	420	354	328	452
55°	417	347	255	215	209	371
65°	232	187	147	139	138	230
75°	76	79	77	77	77	90
85°	19	20	24	26	26	22
90°	0	0	0	0	0	

TEST NUMBER: P1060648

CATALOG NUMBER: S124RDR-H1020D840-X4F0-XX-UDD-WVL-B

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1009.0	1009.0	1009.0	1009.0	1009.0
2.5°	1006.7	1010.2	1000.7	1007.8	1010.2
5°	1003.1	1004.3	991.2	992.4	992.4
7.5°	997.2	994.8	973.5	967.5	966.3
10°	988.9	981.8	950.9	939.1	935.5
12.5°	978.2	965.2	926.0	909.4	902.3
15°	964.0	942.6	897.6	875.0	865.6
17.5°	942.6	915.4	867.9	839.5	828.8
20°	922.5	885.7	834.7	799.2	789.7
22.5°	894.0	854.9	796.8	758.8	747.0
25°	866.7	820.5	757.7	717.3	704.3
27.5°	837.1	784.9	717.3	674.7	658.1
30°	802.7	747.0	677.0	632.0	614.2
32.5°	769.5	710.2	635.5	585.7	566.8
35°	735.1	668.7	594.0	540.7	521.7
37.5°	699.6	629.6	547.8	495.6	470.7
40°	664.0	590.5	506.3	447.0	425.7
42.5°	627.2	550.2	463.6	401.9	374.7
45°	585.7	509.8	419.7	354.5	328.4
47.5°	545.4	470.7	379.4	308.3	284.6
50°	502.7	429.2	336.7	268.0	252.6
52.5°	460.0	386.5	295.2	237.1	230.0
55°	417.4	347.4	254.9	214.6	208.7
57.5°	369.9	307.1	219.4	194.5	189.7
60°	322.5	263.2	188.5	175.5	171.9
62.5°	276.3	225.3	167.2	156.5	154.1
65°	232.4	187.3	147.0	138.7	137.5
67.5°	189.7	154.1	128.1	123.3	120.9
70°	147.0	123.3	110.3	107.9	105.5
72.5°	109.1	99.6	93.7	92.5	91.3
75°	75.9	79.4	77.1	77.1	77.1
77.5°	60.5	61.7	62.8	64.0	62.8
80°	43.9	47.4	48.6	51.0	49.8
82.5°	30.8	33.2	36.8	37.9	39.1
85°	19.0	20.2	23.7	26.1	26.1
87.5°	8.3	9.5	11.9	14.2	15.4
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1060648
 CATALOG NUMBER: S124RDR-H1020D840-X4F0-XX-UDD-WVL-B

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	17.95	19.45	18.32	19.76	20.08	14.52	16.01	14.88	16.33	16.64
	3H	19.16	20.50	19.53	20.83	21.19	16.21	17.55	16.59	17.88	18.24
	4H	19.46	20.72	19.86	21.07	21.45	16.89	18.15	17.29	18.50	18.88
	6H	19.67	20.83	20.08	21.20	21.59	17.44	18.60	17.85	18.97	19.36
	8H	19.72	20.83	20.15	21.22	21.62	17.65	18.76	18.08	19.15	19.55
	12H	19.76	20.82	20.19	21.20	21.63	17.83	18.89	18.26	19.27	19.70
4H	2H	18.09	19.35	18.49	19.70	20.08	15.18	16.44	15.58	16.78	17.16
	3H	19.49	20.54	19.91	20.94	21.34	17.09	18.13	17.50	18.53	18.93
	4H	19.92	20.86	20.35	21.28	21.72	17.89	18.83	18.32	19.24	19.68
	6H	20.25	21.06	20.70	21.51	21.97	18.58	19.39	19.03	19.84	20.30
	8H	20.34	21.11	20.81	21.55	22.02	18.85	19.61	19.31	20.06	20.52
	12H	20.41	21.10	20.90	21.58	22.05	19.08	19.76	19.56	20.24	20.71
8H	4H	20.05	20.81	20.51	21.26	21.72	18.20	18.97	18.67	19.41	19.88
	6H	20.47	21.10	20.97	21.59	22.07	19.03	19.66	19.53	20.16	20.63
	8H	20.63	21.19	21.14	21.70	22.19	19.40	19.96	19.91	20.48	20.96
	12H	20.76	21.26	21.27	21.75	22.31	19.73	20.23	20.24	20.73	21.29
12H	4H	20.05	20.74	20.54	21.22	21.69	18.23	18.92	18.72	19.39	19.87
	6H	20.49	21.06	21.01	21.57	22.06	19.09	19.66	19.61	20.17	20.66
	8H	20.70	21.20	21.21	21.70	22.26	19.52	20.03	20.03	20.52	21.08