

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: P1060642

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

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1060642
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-39)
Test Lab: INNOVATION CENTER
Issue Date: 8/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124RDR-H1020D840-X4F0-XX-UDD-BVL-B
Description: DEFINE 4 BLACK 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

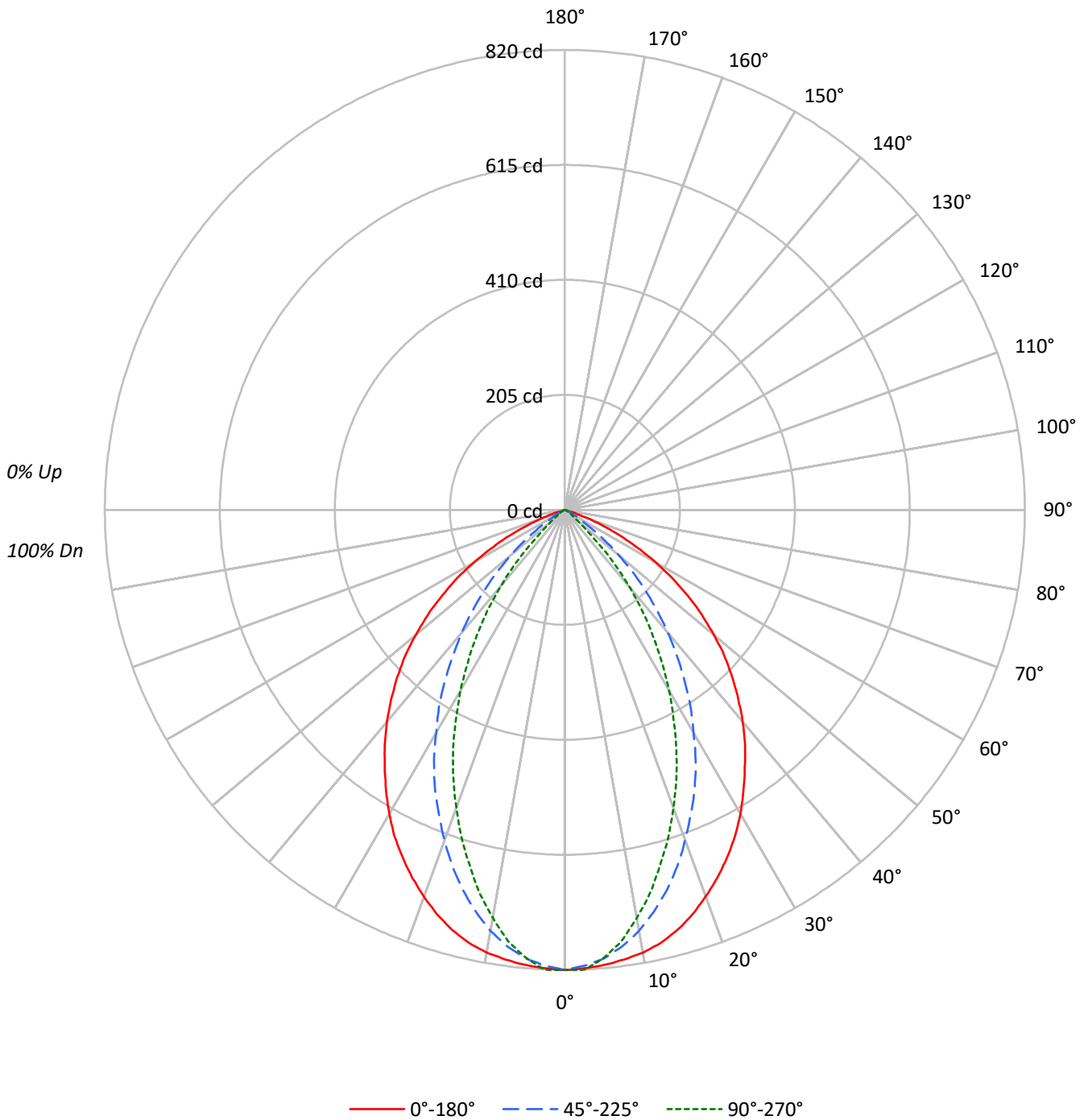
Lumens per Lamp: N/A
Luminaire Lumens: 1071.4 lumens
Efficiency: N/A
Efficacy: 34.3 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 0.83 / 0.98
Luminous Opening: Rectangular (W 0.31' x L: 4' x H: 0')
CIE Type: Direct

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				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	109	106	103	110	107	104	102	103	101	99	99	97	96	96	94	93	91
2	105	99	95	90	103	98	93	89	94	91	87	91	88	86	88	86	84	82
3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	82	78	75	74
4	92	83	76	71	90	82	76	71	79	74	70	77	73	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	56	55
7	76	65	58	53	74	64	57	53	63	57	52	61	56	52	60	55	52	50
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	47	46
9	67	56	49	44	66	56	49	44	54	48	44	54	48	44	53	48	44	42
10	64	52	46	41	63	52	45	41	51	45	41	50	45	41	49	44	41	39

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7065	7065	7065
5°	7041	6939	6928
10°	7008	6666	6459
15°	6913	6257	5845
20°	6725	5748	5183
25°	6500	5205	4472
30°	6224	4563	3702
35°	5883	3914	2879
40°	5544	3213	2012
45°	5140	2470	996
50°	4638	1668	334
55°	4005	854	231
60°	3207	307	164
65°	2199	169	73
70°	984	91	60
75°	0	40	40
80°	0	0	0
85°	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5140 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	75.8	7.1
10°-20°	198.6	18.5
20°-30°	257.1	24.0
30°-40°	244.3	22.8
40°-50°	173.0	16.1
50°-60°	88.8	8.3
60°-70°	31.1	2.9
70°-80°	2.7	0.3
80°-90°	0.0	0.0
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°	531.5	49.6
0°-40°	775.8	72.4
0°-60°	1037.6	96.8
0°-90°	1071.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1071.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	820	820	820	820	820	
5°	815	816	803	803	802	77
15°	775	752	702	669	656	218
25°	684	631	548	490	471	315
35°	560	478	372	300	274	350
45°	422	325	203	116	82	325
55°	267	176	57	17	15	238
65°	108	52	8	5	4	107
75°	0	1	1	1	1	9
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	820.5	820.5	820.5	820.5	820.5
2.5°	818.1	820.5	813.4	819.3	820.5
5°	814.6	815.8	802.7	802.7	801.5
7.5°	808.6	806.3	784.9	776.6	775.4
10°	801.5	793.2	762.4	744.6	738.7
12.5°	790.9	775.4	733.9	707.9	700.7
15°	775.4	751.7	701.9	668.7	655.7
17.5°	756.5	725.6	666.4	626.0	613.0
20°	733.9	694.8	627.2	582.2	565.6
22.5°	710.2	665.2	586.9	535.9	519.3
25°	684.1	630.8	547.8	489.7	470.7
27.5°	656.9	594.0	505.1	444.6	419.7
30°	626.0	557.3	458.9	396.0	372.3
32.5°	592.8	517.0	417.4	349.8	321.3
35°	559.6	477.8	372.3	300.0	273.9
37.5°	527.6	441.1	327.3	251.4	226.5
40°	493.2	400.8	285.8	207.5	179.0
42.5°	457.7	361.6	243.1	162.4	131.6
45°	422.1	324.9	202.8	116.2	81.8
47.5°	386.5	285.8	163.6	73.5	43.9
50°	346.2	247.8	124.5	39.1	24.9
52.5°	308.3	212.2	88.9	22.5	19.0
55°	266.8	175.5	56.9	16.6	15.4
57.5°	227.7	139.9	32.0	13.0	11.9
60°	186.2	107.9	17.8	10.7	9.5
62.5°	144.7	78.3	11.9	7.1	5.9
65°	107.9	52.2	8.3	4.7	3.6
67.5°	71.1	29.6	5.9	2.4	2.4
70°	39.1	14.2	3.6	2.4	2.4
72.5°	14.2	4.7	2.4	1.2	1.2
75°	0.0	1.2	1.2	1.2	1.2
77.5°	0.0	0.0	0.0	0.0	1.2
80°	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0
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	15.32	16.58	15.69	16.89	17.21	0.00	0.00	0.00	0.00	0.00
	3H	15.60	16.70	15.98	17.03	17.40	0.00	0.00	0.00	0.00	0.00
	4H	15.52	16.55	15.93	16.90	17.28	0.00	0.00	0.00	0.00	0.00
	6H	15.44	16.37	15.85	16.75	17.14	0.00	0.00	0.00	0.00	0.00
	8H	15.39	16.28	15.82	16.67	17.07	0.00	0.00	0.00	0.00	0.00
	12H	15.34	16.19	15.78	16.57	17.00	0.00	0.00	0.00	0.00	0.00
4H	2H	15.10	16.12	15.50	16.47	16.86	0.00	0.00	0.00	0.00	0.20
	3H	15.38	16.21	15.79	16.61	17.02	0.00	0.00	0.00	0.00	0.22
	4H	15.29	16.02	15.72	16.44	16.89	0.00	0.00	0.00	0.00	0.17
	6H	15.20	15.83	15.66	16.28	16.74	0.00	0.00	0.00	0.00	0.06
	8H	15.14	15.72	15.61	16.17	16.64	0.00	0.00	0.00	0.00	0.00
	12H	15.08	15.60	15.57	16.09	16.56	0.00	0.00	0.00	0.00	0.00
8H	4H	15.14	15.72	15.61	16.17	16.65	0.00	0.00	0.00	0.00	0.14
	6H	15.03	15.50	15.53	16.00	16.49	0.00	0.00	0.00	0.00	0.01
	8H	14.96	15.39	15.49	15.91	16.40	0.00	0.00	0.00	0.00	0.00
	12H	14.91	15.29	15.43	15.78	16.36	0.00	0.00	0.00	0.00	0.00
12H	4H	15.09	15.60	15.57	16.09	16.56	0.00	0.00	0.00	0.00	0.06
	6H	14.96	15.39	15.49	15.91	16.40	0.00	0.00	0.00	0.00	0.00
	8H	14.91	15.29	15.43	15.78	16.36	0.00	0.00	0.00	0.00	0.00