

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1056101

Luminaire Tested: S124R3DR-H1020D927-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056101
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-9)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DR-H1020D927-X4F0-XX-UDD-F-S
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

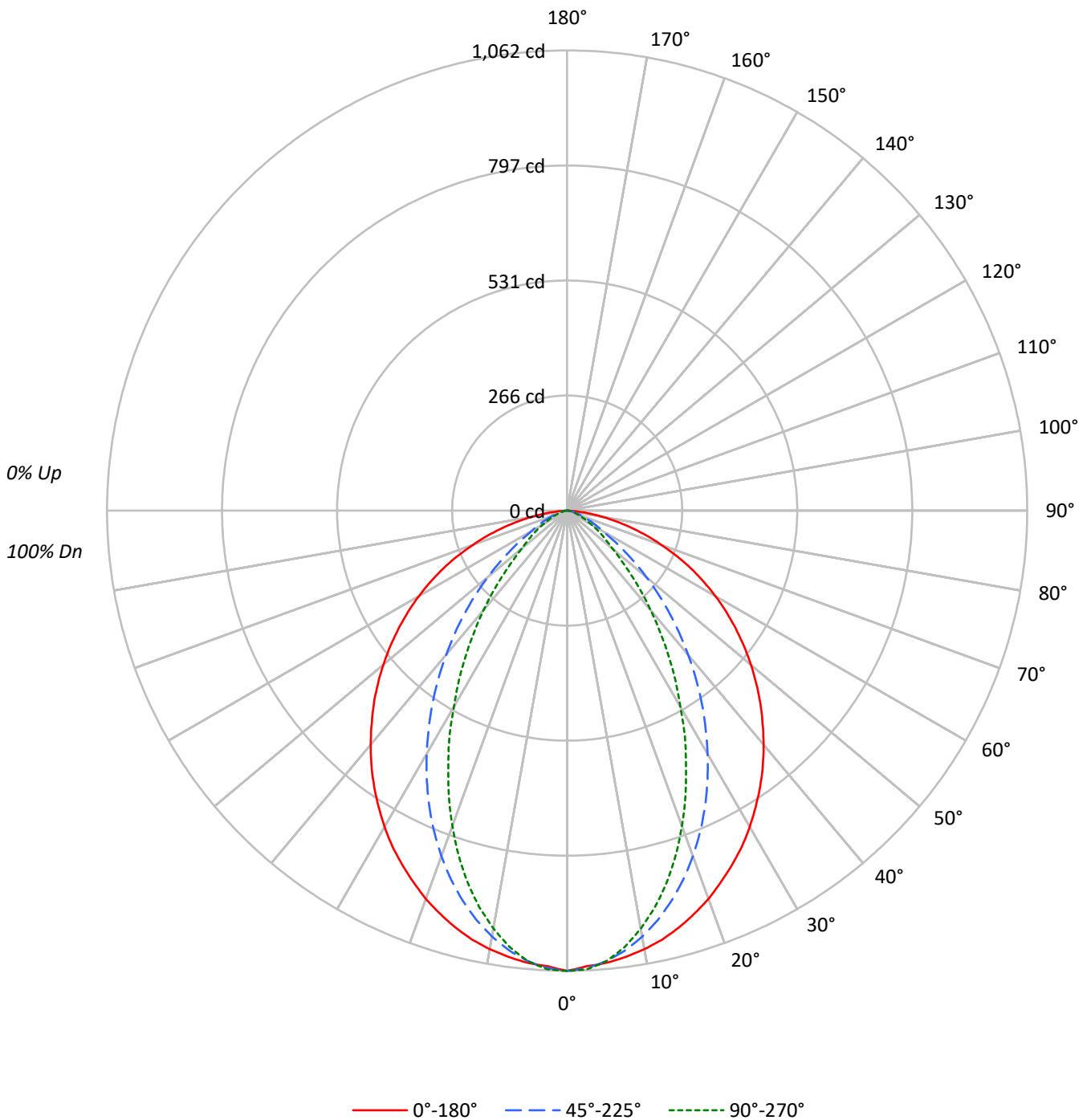
Lumens per Lamp: N/A
Luminaire Lumens: 1718.1 lumens
Efficiency: N/A
Efficacy: 55.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
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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CATALOG NUMBER: S124R3DR-H1020D927-X4F0-XX-UDD-F-S

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	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	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90					89				
2	103	96	91	86	101	94	89	85	91	87	83	88	84	81	85	82	79					78				
3	95	87	80	74	93	85	79	74	82	77	73	80	75	71	77	73	70					68				
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	71	66	62					60				
5	82	71	64	58	80	70	63	58	68	62	57	66	61	56	65	60	56					54				
6	77	65	57	52	75	64	57	52	63	56	51	61	55	51	60	54	50					48				
7	72	60	52	47	70	59	52	47	58	51	46	56	50	46	55	50	46					44				
8	67	55	48	42	66	55	47	42	53	47	42	52	46	42	51	46	42					40				
9	63	51	44	39	62	51	44	39	50	43	39	49	43	38	48	42	38					37				
10	60	48	41	36	59	47	40	36	46	40	36	45	40	35	45	39	35					34				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9394	9394	9394
5°	9298	9263	9263
10°	9228	8962	8793
15°	9118	8530	8132
20°	8973	7986	7288
25°	8793	7345	6331
30°	8605	6616	5333
35°	8382	5841	4389
40°	8141	5013	3460
45°	7892	4169	2586
50°	7620	3279	1891
55°	7320	2425	1509
60°	6997	1680	1155
65°	6582	1303	849
70°	5959	920	664
75°	5206	642	506
80°	4180	504	453
85°	2313	406	406

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7892 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.6	5.7
10°-20°	263.3	15.3
20°-30°	351.2	20.4
30°-40°	353.6	20.6
40°-50°	290.0	16.9
50°-60°	198.2	11.5
60°-70°	110.8	6.4
70°-80°	43.9	2.6
80°-90°	8.4	0.5
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°	713.1	41.5
0°-40°	1066.8	62.1
0°-60°	1555.0	90.5
0°-90°	1718.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1718.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1062	1062	1062	1062	1062	
5°	1048	1060	1044	1039	1044	99
15°	996	985	932	899	888	281
25°	901	857	753	677	649	415
35°	777	694	541	438	407	486
45°	631	515	333	234	207	487
55°	475	333	157	105	98	425
65°	315	158	62	44	41	311
75°	152	42	19	16	15	163
85°	23	4	4	4	4	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1062.5	1062.5	1062.5	1062.5	1062.5
2.5°	1052.6	1065.5	1056.6	1057.6	1059.6
5°	1047.7	1059.6	1043.7	1038.8	1043.7
7.5°	1038.8	1047.7	1023.9	1014.0	1016.0
10°	1027.9	1030.9	998.2	981.4	979.4
12.5°	1014.0	1010.1	967.5	942.8	936.9
15°	996.2	985.4	931.9	899.3	888.4
17.5°	975.5	956.7	892.4	849.8	834.0
20°	953.7	926.0	848.8	794.4	774.6
22.5°	928.0	893.3	802.3	736.0	713.3
25°	901.3	856.7	752.9	676.7	649.0
27.5°	873.6	819.2	701.4	616.3	588.6
30°	842.9	778.6	648.0	556.0	522.4
32.5°	810.2	737.0	594.6	496.6	465.0
35°	776.6	694.5	541.2	438.3	406.6
37.5°	742.0	651.0	487.7	382.9	351.2
40°	705.4	606.4	434.3	330.4	299.8
42.5°	667.8	560.9	382.9	281.0	252.3
45°	631.2	515.4	333.4	234.5	206.8
47.5°	592.6	469.9	284.9	190.9	167.2
50°	554.0	424.4	238.4	153.3	137.5
52.5°	514.4	378.9	195.9	125.6	114.8
55°	474.9	333.4	157.3	104.9	97.9
57.5°	435.3	287.9	121.7	89.0	81.1
60°	395.7	243.4	95.0	72.2	65.3
62.5°	355.2	198.9	78.2	57.4	51.4
65°	314.6	158.3	62.3	44.5	40.6
67.5°	274.0	120.7	47.5	34.6	31.7
70°	230.5	86.1	35.6	26.7	25.7
72.5°	192.9	58.4	25.7	20.8	19.8
75°	152.4	41.6	18.8	15.8	14.8
77.5°	117.7	26.7	13.9	12.9	11.9
80°	82.1	14.8	9.9	8.9	8.9
82.5°	50.5	7.9	6.9	5.9	5.9
85°	22.8	4.0	4.0	4.0	4.0
87.5°	4.0	2.0	2.0	2.0	2.0
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	18.51	19.91	18.87	20.23	20.54	9.59	11.00	9.96	11.31	11.63
	3H	20.09	21.34	20.47	21.67	22.04	10.19	11.44	10.56	11.77	12.13
	4H	20.69	21.86	21.09	22.21	22.59	10.34	11.51	10.74	11.86	12.24
	6H	21.12	22.19	21.53	22.56	22.96	10.45	11.53	10.86	11.89	12.29
	8H	21.23	22.25	21.66	22.64	23.05	10.47	11.49	10.90	11.88	12.28
	12H	21.28	22.25	21.71	22.63	23.06	10.48	11.45	10.91	11.84	12.27
4H	2H	18.36	19.53	18.76	19.88	20.26	10.18	11.35	10.58	11.70	12.08
	3H	20.01	20.97	20.42	21.37	21.77	10.89	11.85	11.30	12.25	12.65
	4H	20.61	21.47	21.05	21.89	22.33	11.09	11.95	11.53	12.37	12.81
	6H	21.11	21.85	21.57	22.29	22.76	11.26	12.00	11.72	12.45	12.91
	8H	21.25	21.94	21.72	22.39	22.86	11.29	11.98	11.76	12.43	12.90
	12H	21.32	21.94	21.81	22.42	22.89	11.32	11.93	11.80	12.41	12.89
8H	4H	20.51	21.20	20.97	21.65	22.12	11.37	12.06	11.83	12.50	12.97
	6H	20.99	21.56	21.49	22.05	22.53	11.57	12.14	12.07	12.63	13.11
	8H	21.13	21.64	21.65	22.15	22.65	11.63	12.14	12.15	12.65	13.14
	12H	21.22	21.67	21.74	22.17	22.74	11.69	12.14	12.20	12.63	13.20
12H	4H	20.47	21.08	20.95	21.56	22.04	11.39	12.01	11.88	12.49	12.96
	6H	20.93	21.44	21.45	21.96	22.45	11.60	12.11	12.12	12.62	13.11
	8H	21.10	21.55	21.61	22.04	22.61	11.69	12.14	12.20	12.63	13.20