

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: P1056014

Luminaire Tested: S124R3DR-S350D840-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056014
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-S350D840-X4F0-XX-UDD-F-S
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

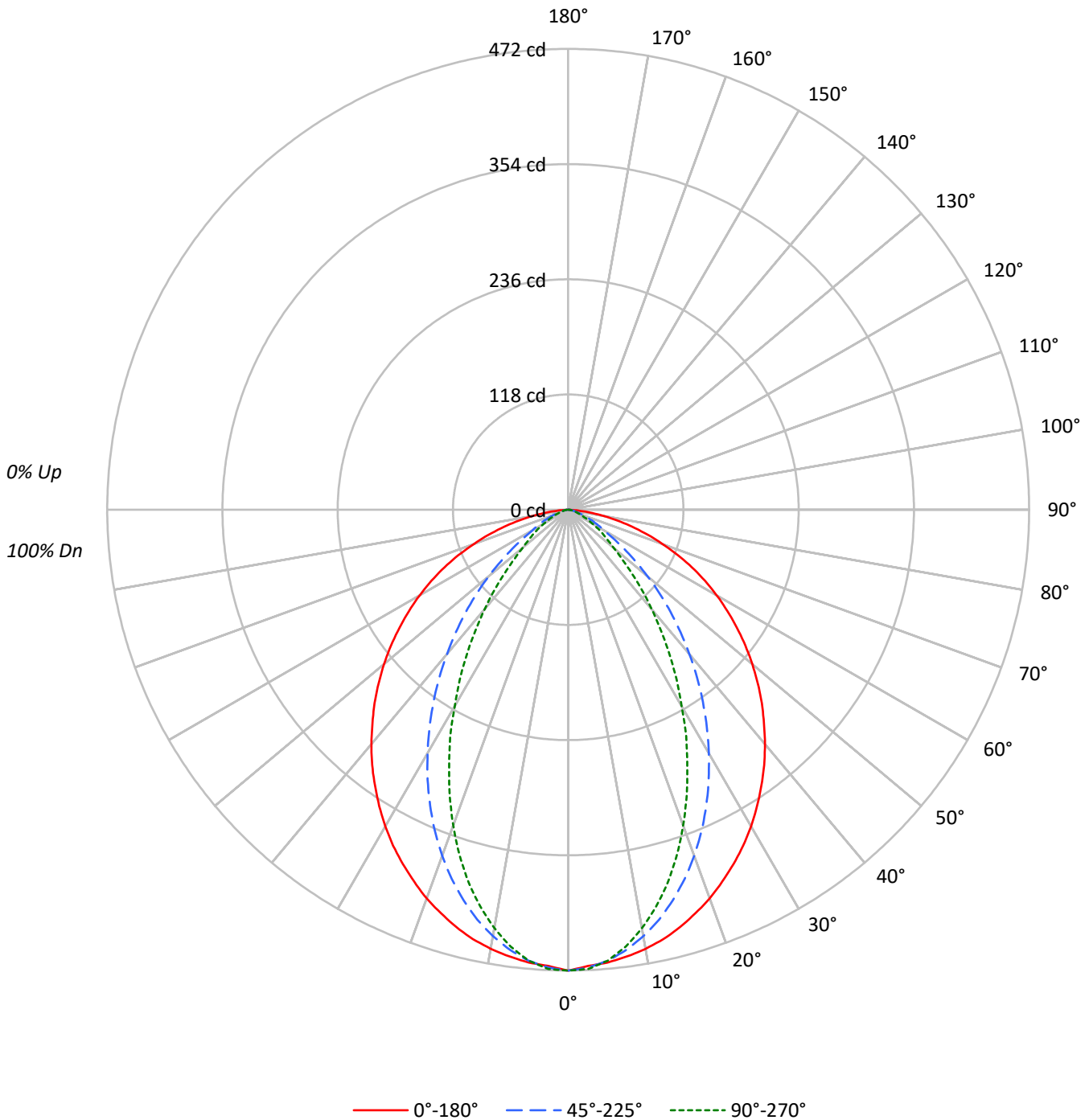
Lumens per Lamp: N/A
Luminaire Lumens: 763.3 lumens
Efficiency: N/A
Efficacy: 60.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
Input Voltage (V): 120
Input Current (A_{in}): 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	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°	4174	4174	4174
5°	4131	4115	4115
10°	4100	3982	3907
15°	4051	3790	3613
20°	3987	3548	3239
25°	3906	3263	2812
30°	3823	2939	2370
35°	3724	2595	1950
40°	3617	2228	1537
45°	3506	1852	1149
50°	3385	1457	840
55°	3252	1077	671
60°	3109	746	513
65°	2925	579	377
70°	2647	408	295
75°	2313	287	225
80°	1858	224	204
85°	1025	183	183

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3506 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.8	5.7
10°-20°	117.0	15.3
20°-30°	156.0	20.4
30°-40°	157.1	20.6
40°-50°	128.8	16.9
50°-60°	88.1	11.5
60°-70°	49.2	6.4
70°-80°	19.5	2.6
80°-90°	3.7	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°	316.8	41.5
0°-40°	474.0	62.1
0°-60°	690.9	90.5
0°-90°	763.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	763.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	472	472	472	472	472	
5°	466	471	464	462	464	44
15°	443	438	414	400	395	125
25°	400	381	334	301	288	184
35°	345	309	240	195	181	216
45°	280	229	148	104	92	216
55°	211	148	70	47	44	189
65°	140	70	28	20	18	138
75°	68	18	8	7	7	73
85°	10	2	2	2	2	14
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	472.1	472.1	472.1	472.1	472.1
2.5°	467.7	473.4	469.4	469.9	470.8
5°	465.5	470.8	463.7	461.5	463.7
7.5°	461.5	465.5	454.9	450.5	451.4
10°	456.7	458.0	443.5	436.0	435.2
12.5°	450.5	448.8	429.9	418.9	416.3
15°	442.6	437.8	414.1	399.6	394.7
17.5°	433.4	425.0	396.5	377.6	370.5
20°	423.7	411.4	377.1	353.0	344.2
22.5°	412.3	396.9	356.5	327.0	316.9
25°	400.4	380.7	334.5	300.7	288.3
27.5°	388.1	363.9	311.6	273.8	261.5
30°	374.5	345.9	287.9	247.0	232.1
32.5°	360.0	327.5	264.2	220.7	206.6
35°	345.0	308.6	240.4	194.7	180.7
37.5°	329.7	289.2	216.7	170.1	156.0
40°	313.4	269.4	193.0	146.8	133.2
42.5°	296.7	249.2	170.1	124.8	112.1
45°	280.4	229.0	148.1	104.2	91.9
47.5°	263.3	208.8	126.6	84.8	74.3
50°	246.1	188.6	105.9	68.1	61.1
52.5°	228.6	168.3	87.0	55.8	51.0
55°	211.0	148.1	69.9	46.6	43.5
57.5°	193.4	127.9	54.1	39.6	36.0
60°	175.8	108.1	42.2	32.1	29.0
62.5°	157.8	88.4	34.7	25.5	22.9
65°	139.8	70.3	27.7	19.8	18.0
67.5°	121.8	53.6	21.1	15.4	14.1
70°	102.4	38.2	15.8	11.9	11.4
72.5°	85.7	25.9	11.4	9.2	8.8
75°	67.7	18.5	8.4	7.0	6.6
77.5°	52.3	11.9	6.2	5.7	5.3
80°	36.5	6.6	4.4	4.0	4.0
82.5°	22.4	3.5	3.1	2.6	2.6
85°	10.1	1.8	1.8	1.8	1.8
87.5°	1.8	0.9	0.9	0.9	0.9
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	15.69	17.09	16.05	17.41	17.72	6.78	8.19	7.15	8.50	8.82
	3H	17.27	18.53	17.65	18.85	19.22	7.37	8.63	7.75	8.96	9.32
	4H	17.87	19.04	18.27	19.39	19.77	7.53	8.70	7.93	9.05	9.43
	6H	18.30	19.38	18.71	19.74	20.14	7.64	8.72	8.05	9.08	9.48
	8H	18.41	19.43	18.84	19.82	20.23	7.66	8.68	8.09	9.07	9.47
	12H	18.46	19.43	18.89	19.81	20.24	7.67	8.64	8.10	9.03	9.46
4H	2H	15.54	16.71	15.94	17.06	17.44	7.36	8.53	7.77	8.88	9.26
	3H	17.19	18.15	17.60	18.55	18.95	8.08	9.04	8.49	9.44	9.84
	4H	17.80	18.65	18.23	19.07	19.51	8.28	9.14	8.71	9.56	10.00
	6H	18.29	19.03	18.75	19.47	19.94	8.45	9.19	8.91	9.64	10.10
	8H	18.43	19.12	18.90	19.57	20.04	8.48	9.17	8.95	9.62	10.09
	12H	18.50	19.12	18.99	19.60	20.07	8.51	9.12	8.99	9.60	10.07
8H	4H	17.69	18.38	18.16	18.83	19.30	8.55	9.24	9.02	9.69	10.16
	6H	18.17	18.74	18.67	19.23	19.71	8.76	9.32	9.26	9.82	10.30
	8H	18.31	18.82	18.83	19.34	19.83	8.81	9.32	9.33	9.84	10.33
	12H	18.41	18.85	18.92	19.35	19.92	8.88	9.32	9.39	9.82	10.39
12H	4H	17.65	18.26	18.13	18.74	19.22	8.58	9.19	9.06	9.67	10.15
	6H	18.12	18.62	18.63	19.14	19.63	8.79	9.30	9.31	9.81	10.30
	8H	18.28	18.73	18.79	19.22	19.79	8.88	9.33	9.39	9.82	10.39