

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: P1056203

Luminaire Tested: S124R3DR-H795D840-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056203
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-H795D840-X4F0-XX-UDD-F-S
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

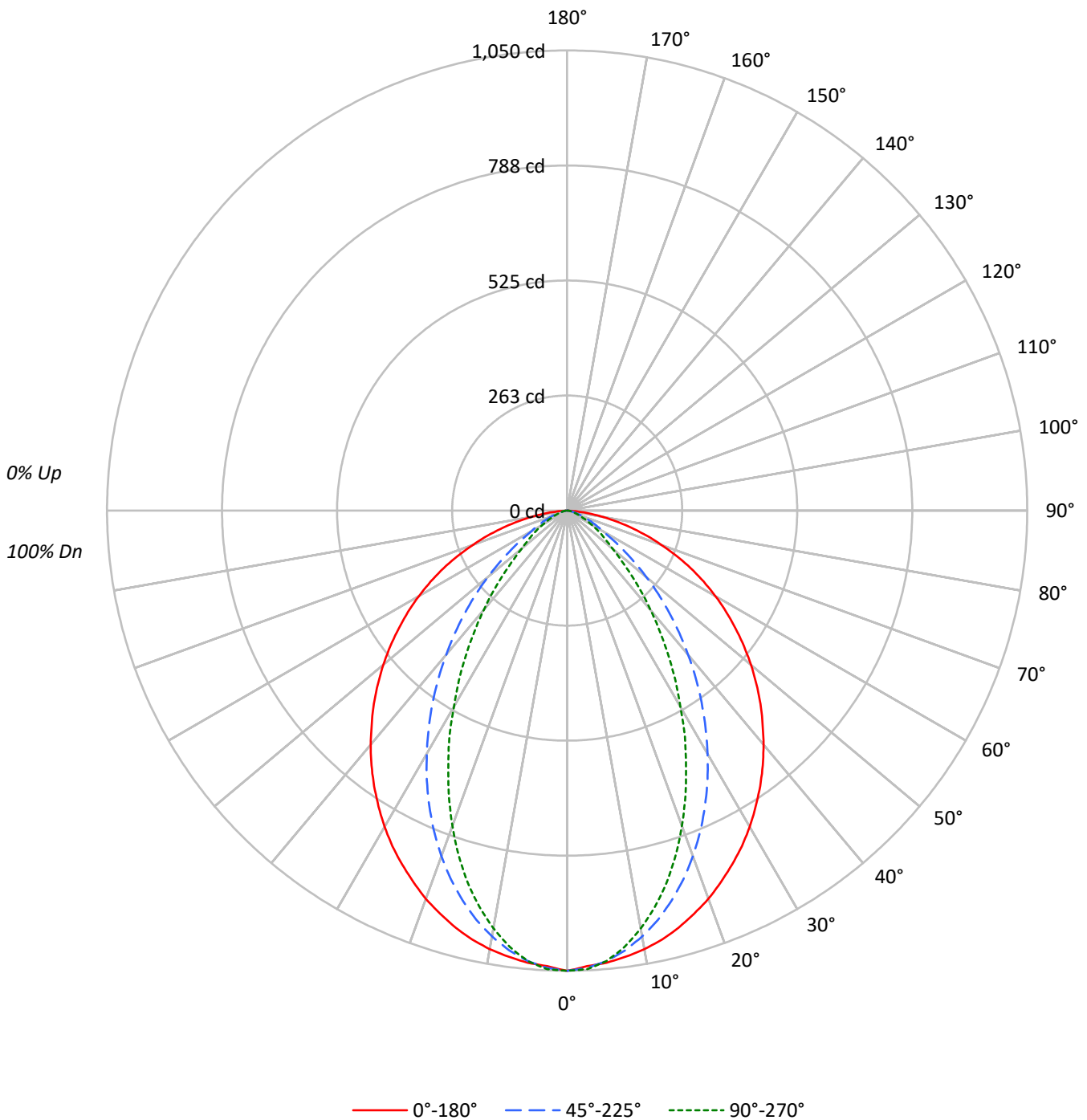
Lumens per Lamp: N/A
Luminaire Lumens: 1698.3 lumens
Efficiency: N/A
Efficacy: 71.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
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	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°	9286	9286	9286
5°	9191	9156	9156
10°	9122	8858	8691
15°	9014	8432	8038
20°	8870	7895	7204
25°	8691	7260	6258
30°	8506	6539	5271
35°	8286	5773	4338
40°	8048	4955	3420
45°	7801	4121	2556
50°	7532	3242	1869
55°	7236	2397	1492
60°	6917	1660	1141
65°	6506	1289	839
70°	5891	910	657
75°	5145	635	502
80°	4134	499	448
85°	2282	396	396

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7801 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.4	5.7
10°-20°	260.3	15.3
20°-30°	347.2	20.4
30°-40°	349.6	20.6
40°-50°	286.7	16.9
50°-60°	196.0	11.5
60°-70°	109.5	6.4
70°-80°	43.4	2.6
80°-90°	8.3	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°	704.9	41.5
0°-40°	1054.5	62.1
0°-60°	1537.1	90.5
0°-90°	1698.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1698.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1050	1050	1050	1050	1050	
5°	1036	1047	1032	1027	1032	98
15°	985	974	921	889	878	277
25°	891	847	744	669	642	410
35°	768	686	535	433	402	480
45°	624	510	330	232	204	481
55°	469	330	156	104	97	420
65°	311	156	62	44	40	307
75°	151	41	19	16	15	161
85°	22	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°	1050.3	1050.3	1050.3	1050.3	1050.3
2.5°	1040.5	1053.2	1044.4	1045.4	1047.4
5°	1035.6	1047.4	1031.7	1026.8	1031.7
7.5°	1026.8	1035.6	1012.2	1002.4	1004.3
10°	1016.1	1019.0	986.7	970.1	968.1
12.5°	1002.4	998.5	956.4	932.0	926.1
15°	984.8	974.0	921.2	888.9	878.2
17.5°	964.2	945.7	882.1	840.0	824.4
20°	942.7	915.3	839.1	785.3	765.7
22.5°	917.3	883.1	793.1	727.6	705.1
25°	890.9	846.9	744.2	668.9	641.5
27.5°	863.5	809.7	693.3	609.2	581.9
30°	833.2	769.6	640.5	549.6	516.3
32.5°	800.9	728.6	587.7	490.9	459.6
35°	767.7	686.5	534.9	433.2	401.9
37.5°	733.4	643.5	482.1	378.5	347.2
40°	697.3	599.5	429.3	326.6	296.3
42.5°	660.1	554.5	378.5	277.7	249.4
45°	623.9	509.5	329.6	231.8	204.4
47.5°	585.8	464.5	281.6	188.7	165.3
50°	547.6	419.5	235.7	151.6	135.9
52.5°	508.5	374.5	193.6	124.2	113.4
55°	469.4	329.6	155.5	103.7	96.8
57.5°	430.3	284.6	120.3	88.0	80.2
60°	391.2	240.6	93.9	71.4	64.5
62.5°	351.1	196.6	77.3	56.7	50.9
65°	311.0	156.5	61.6	44.0	40.1
67.5°	270.9	119.3	46.9	34.2	31.3
70°	227.9	85.1	35.2	26.4	25.4
72.5°	190.7	57.7	25.4	20.5	19.6
75°	150.6	41.1	18.6	15.6	14.7
77.5°	116.4	26.4	13.7	12.7	11.7
80°	81.2	14.7	9.8	8.8	8.8
82.5°	49.9	7.8	6.8	5.9	5.9
85°	22.5	3.9	3.9	3.9	3.9
87.5°	3.9	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	18.47	19.87	18.83	20.19	20.50	9.56	10.96	9.92	11.28	11.59
	3H	20.05	21.30	20.43	21.63	22.00	10.15	11.40	10.53	11.73	12.09
	4H	20.65	21.82	21.05	22.17	22.55	10.30	11.47	10.71	11.82	12.20
	6H	21.08	22.16	21.49	22.52	22.92	10.41	11.49	10.82	11.86	12.25
	8H	21.19	22.21	21.62	22.60	23.01	10.43	11.45	10.86	11.84	12.25
	12H	21.24	22.21	21.67	22.59	23.02	10.44	11.42	10.87	11.80	12.23
4H	2H	18.32	19.49	18.72	19.84	20.22	10.14	11.31	10.54	11.66	12.04
	3H	19.97	20.93	20.38	21.33	21.73	10.85	11.81	11.26	12.21	12.61
	4H	20.57	21.43	21.01	21.85	22.29	11.05	11.91	11.49	12.33	12.77
	6H	21.07	21.81	21.53	22.25	22.72	11.22	11.96	11.68	12.41	12.87
	8H	21.21	21.90	21.68	22.35	22.82	11.25	11.95	11.72	12.39	12.86
	12H	21.28	21.90	21.77	22.38	22.85	11.28	11.89	11.76	12.37	12.85
8H	4H	20.47	21.16	20.93	21.61	22.08	11.33	12.02	11.79	12.46	12.93
	6H	20.95	21.52	21.45	22.01	22.49	11.53	12.10	12.03	12.59	13.07
	8H	21.09	21.60	21.61	22.12	22.61	11.59	12.10	12.11	12.61	13.10
	12H	21.18	21.63	21.70	22.13	22.70	11.65	12.10	12.16	12.59	13.16
12H	4H	20.43	21.04	20.91	21.52	22.00	11.35	11.97	11.84	12.45	12.92
	6H	20.89	21.40	21.41	21.92	22.41	11.56	12.07	12.08	12.58	13.07
	8H	21.06	21.51	21.57	22.00	22.57	11.65	12.10	12.17	12.59	13.16