

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: P1055974

Luminaire Tested: S124R3DR-S1020D940-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055974
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-8)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DR-S1020D940-X4F0-XX-UDD-F-B
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

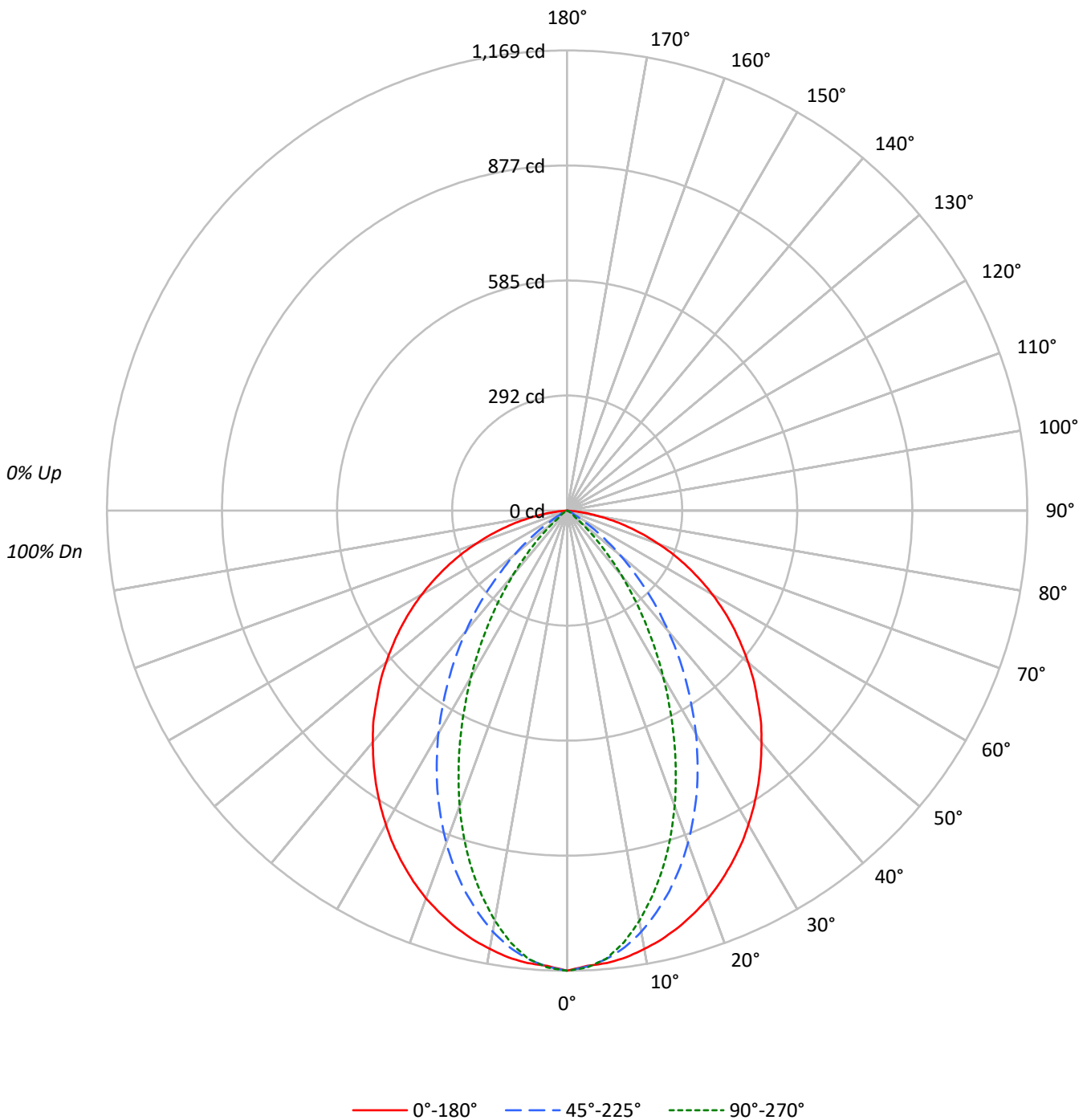
Lumens per Lamp: N/A
Luminaire Lumens: 1633.6 lumens
Efficiency: N/A
Efficacy: 47.1 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 34.7
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	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	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92				90	
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82				80	
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73				71	
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65				64	
5	84	74	66	61	83	73	66	61	71	65	60	69	64	60	67	63	59				57	
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54				52	
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	49				47	
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45				43	
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41				40	
10	62	50	43	39	61	50	43	39	49	43	39	48	42	39	47	42	38				37	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10334	10334	10334
5°	10241	10150	10140
10°	10154	9753	9496
15°	10027	9167	8600
20°	9865	8453	7515
25°	9647	7613	6272
30°	9406	6680	4984
35°	9140	5664	3711
40°	8862	4615	2473
45°	8554	3525	1362
50°	8260	2411	378
55°	7931	1307	247
60°	7538	405	141
65°	7048	264	71
70°	6370	119	28
75°	5479	38	0
80°	4145	0	0
85°	1745	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8554 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.8	6.6
10°-20°	283.1	17.3
20°-30°	365.8	22.4
30°-40°	349.6	21.4
40°-50°	261.5	16.0
50°-60°	155.6	9.5
60°-70°	79.0	4.8
70°-80°	27.5	1.7
80°-90°	3.8	0.2
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°	756.7	46.3
0°-40°	1106.3	67.7
0°-60°	1523.4	93.3
0°-90°	1633.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1633.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1169	1169	1169	1169	1169	
5°	1154	1163	1144	1138	1142	109
15°	1096	1073	1002	954	940	309
25°	989	920	780	677	643	455
35°	847	730	525	391	344	530
45°	684	525	282	150	109	529
55°	514	320	85	20	16	459
65°	337	130	13	5	3	333
75°	160	17	1	1	0	170
85°	17	0	0	0	0	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1168.8	<i>1168.8</i>	1168.8	1168.8	1168.8
2.5°	<i>1157.4</i>	<i>1171.1</i>	<i>1159.7</i>	<i>1160.8</i>	<i>1161.9</i>
5°	1153.9	<i>1163.1</i>	1143.6	1137.9	1142.5
7.5°	1144.8	<i>1148.2</i>	1119.5	1104.7	1105.8
10°	1131.0	<i>1127.6</i>	1086.3	1061.1	1057.7
12.5°	1115.0	<i>1103.5</i>	1046.2	1009.5	1001.5
15°	1095.5	<i>1072.6</i>	1001.5	954.5	939.6
17.5°	1072.6	<i>1039.3</i>	952.2	890.4	872.0
20°	1048.5	<i>1002.7</i>	898.4	821.6	798.7
22.5°	1019.9	<i>961.4</i>	839.9	749.4	720.8
25°	988.9	<i>920.2</i>	780.4	677.2	642.9
27.5°	956.8	<i>875.5</i>	717.3	603.9	563.8
30°	921.3	<i>828.5</i>	654.3	529.4	488.2
32.5°	884.6	<i>780.4</i>	589.0	460.7	414.8
35°	846.8	<i>729.9</i>	524.8	390.8	343.8
37.5°	807.9	<i>679.5</i>	462.9	324.3	276.2
40°	767.8	<i>628.0</i>	399.9	261.3	214.3
42.5°	728.8	<i>576.4</i>	340.3	201.7	158.1
45°	684.1	<i>524.8</i>	281.9	150.1	108.9
47.5°	644.0	<i>474.4</i>	225.7	102.0	64.2
50°	600.5	<i>420.5</i>	175.3	59.6	27.5
52.5°	556.9	<i>370.1</i>	128.3	26.4	20.6
55°	514.5	<i>319.7</i>	84.8	19.5	16.0
57.5°	469.8	<i>269.3</i>	45.8	14.9	11.5
60°	426.3	<i>220.0</i>	22.9	11.5	8.0
62.5°	381.6	<i>173.0</i>	18.3	6.9	4.6
65°	336.9	<i>129.5</i>	12.6	4.6	3.4
67.5°	292.2	<i>88.2</i>	8.0	2.3	1.1
70°	246.4	<i>53.9</i>	4.6	1.1	1.1
72.5°	202.8	<i>27.5</i>	2.3	1.1	1.1
75°	160.4	<i>17.2</i>	1.1	1.1	0.0
77.5°	119.2	<i>9.2</i>	1.1	1.1	0.0
80°	81.4	<i>3.4</i>	0.0	0.0	0.0
82.5°	47.0	<i>1.1</i>	0.0	0.0	0.0
85°	17.2	<i>0.0</i>	0.0	0.0	0.0
87.5°	0.0	<i>0.0</i>	0.0	0.0	0.0
90°	0.0	<i>0.0</i>	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	18.57	19.90	18.93	20.21	20.53	0.00	0.00	0.00	0.00	0.00
	3H	20.11	21.29	20.49	21.62	21.98	0.00	0.00	0.00	0.00	0.00
	4H	20.71	21.80	21.11	22.15	22.54	0.00	0.00	0.00	0.00	0.00
	6H	21.12	22.13	21.54	22.50	22.89	0.00	0.00	0.00	0.00	0.00
	8H	21.22	22.17	21.65	22.57	22.97	0.00	0.00	0.00	0.00	0.00
	12H	21.24	22.15	21.67	22.53	22.96	0.00	0.00	0.00	0.00	0.00
4H	2H	18.35	19.44	18.75	19.79	20.18	0.00	0.00	0.00	0.00	0.05
	3H	19.91	20.80	20.32	21.21	21.61	0.00	0.00	0.00	0.00	0.00
	4H	20.49	21.29	20.93	21.71	22.15	0.00	0.00	0.00	0.00	0.00
	6H	20.95	21.64	21.42	22.09	22.55	0.00	0.00	0.00	0.00	0.00
	8H	21.07	21.72	21.54	22.16	22.63	0.00	0.00	0.00	0.00	0.00
	12H	21.11	21.68	21.60	22.16	22.64	0.00	0.00	0.00	0.00	0.00
8H	4H	20.36	21.00	20.83	21.45	21.92	0.00	0.50	0.33	0.95	1.42
	6H	20.80	21.32	21.30	21.82	22.30	0.00	0.29	0.27	0.79	1.27
	8H	20.92	21.38	21.44	21.90	22.39	0.00	0.18	0.23	0.69	1.19
	12H	20.96	21.38	21.48	21.87	22.44	0.00	0.08	0.18	0.57	1.15
12H	4H	20.31	20.88	20.80	21.36	21.83	0.28	0.84	0.76	1.32	1.80
	6H	20.74	21.21	21.26	21.72	22.21	0.17	0.64	0.69	1.15	1.64
	8H	20.87	21.28	21.39	21.78	22.35	0.12	0.54	0.64	1.03	1.60