

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: P1055986

Luminaire Tested: S124R3DR-S1195D840-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055986
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-S1195D840-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, 80 CRI LEDS
Ballast/Driver: -

Summary

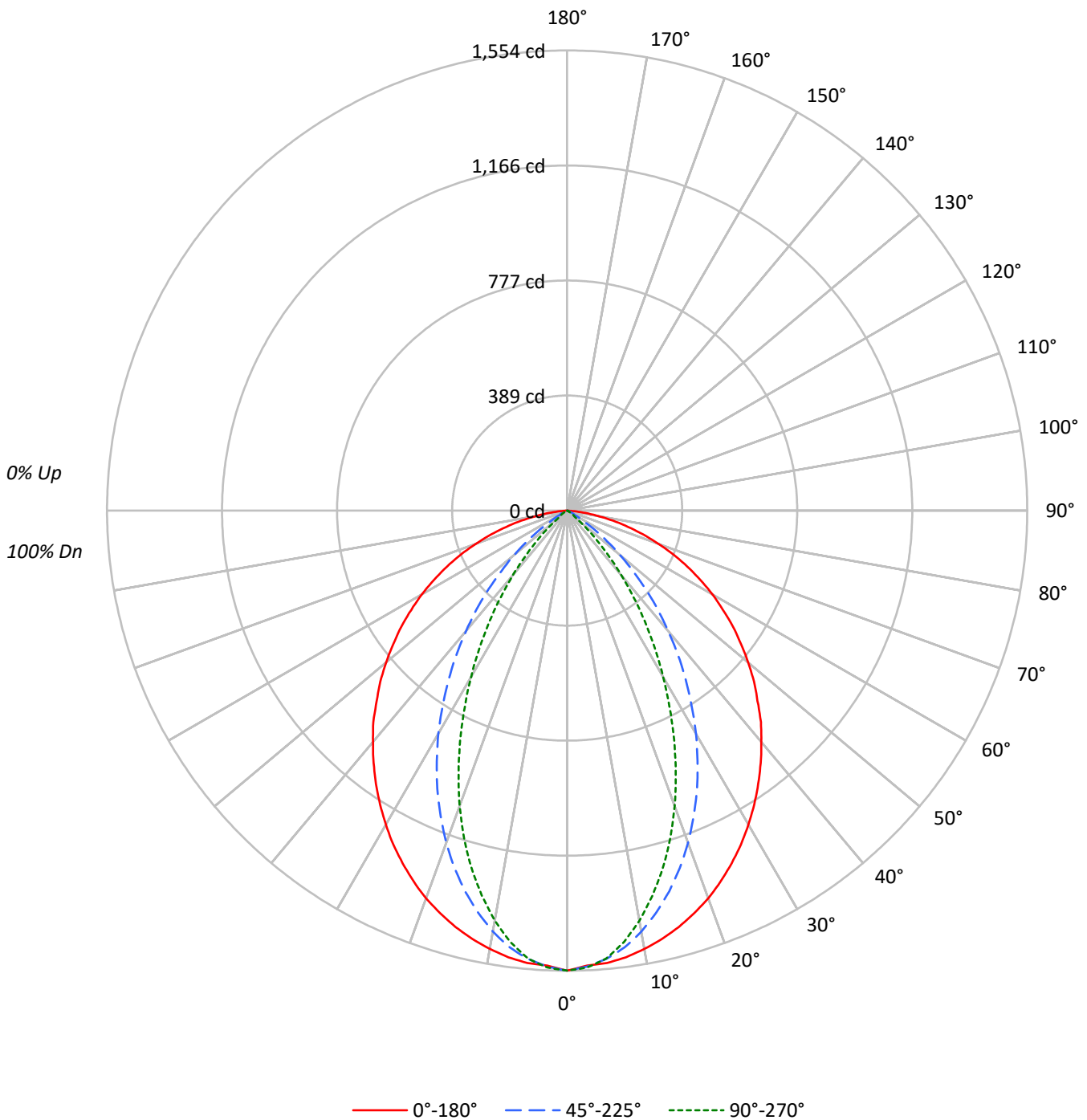
Lumens per Lamp: N/A
Luminaire Lumens: 2171.2 lumens
Efficiency: N/A
Efficacy: 51.8 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 41.9
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	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					90			
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80					80			
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	71					71			
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65	64					64			
5	84	74	66	61	83	73	66	61	71	65	60	69	64	60	67	63	59	57					57			
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54	52					52			
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	49	47					47			
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45	43					43			
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40					40			
10	62	50	43	39	61	50	43	39	49	43	39	48	42	39	47	42	38	37					37			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13735	13735	13735
5°	13612	13490	13477
10°	13495	12962	12621
15°	13327	12184	11432
20°	13112	11235	9988
25°	12822	10118	8335
30°	12501	8879	6624
35°	12148	7528	4931
40°	11777	6134	3287
45°	11368	4685	1809
50°	10978	3205	503
55°	10540	1737	328
60°	10019	539	189
65°	9368	351	96
70°	8466	158	39
75°	7283	51	0
80°	5504	0	0
85°	2313	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11368 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.3	6.6
10°-20°	376.2	17.3
20°-30°	486.2	22.4
30°-40°	464.7	21.4
40°-50°	347.5	16.0
50°-60°	206.8	9.5
60°-70°	105.0	4.8
70°-80°	36.5	1.7
80°-90°	5.0	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°	1005.7	46.3
0°-40°	1470.4	67.7
0°-60°	2024.8	93.3
0°-90°	2171.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2171.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1554	1554	1554	1554	1554	
5°	1534	1546	1520	1512	1518	145
15°	1456	1426	1331	1269	1249	410
25°	1314	1223	1037	900	854	605
35°	1126	970	698	519	457	704
45°	909	698	375	200	145	703
55°	684	425	113	26	21	610
65°	448	172	17	6	5	443
75°	213	23	2	2	0	226
85°	23	0	0	0	0	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1553.5	1553.5	1553.5	1553.5	1553.5
2.5°	1538.3	1556.5	1541.3	1542.8	1544.4
5°	1533.7	1545.9	1520.0	1512.4	1518.5
7.5°	1521.5	1526.1	1488.0	1468.2	1469.7
10°	1503.2	1498.7	1443.8	1410.3	1405.8
12.5°	1481.9	1466.7	1390.5	1341.8	1331.1
15°	1456.0	1425.6	1331.1	1268.7	1248.9
17.5°	1425.6	1381.4	1265.6	1183.4	1159.0
20°	1393.6	1332.7	1194.1	1092.0	1061.6
22.5°	1355.5	1277.8	1116.4	996.1	958.0
25°	1314.4	1223.0	1037.2	900.1	854.4
27.5°	1271.7	1163.6	953.4	802.6	749.3
30°	1224.5	1101.2	869.7	703.6	648.8
32.5°	1175.8	1037.2	782.8	612.3	551.3
35°	1125.5	970.2	697.5	519.4	456.9
37.5°	1073.7	903.2	615.3	431.0	367.1
40°	1020.4	834.6	531.5	347.3	284.8
42.5°	968.6	766.1	452.3	268.1	210.2
45°	909.2	697.5	374.7	199.5	144.7
47.5°	855.9	630.5	300.0	135.5	85.3
50°	798.1	559.0	233.0	79.2	36.6
52.5°	740.2	491.9	170.6	35.0	27.4
55°	683.8	424.9	112.7	25.9	21.3
57.5°	624.4	357.9	60.9	19.8	15.2
60°	566.6	292.4	30.5	15.2	10.7
62.5°	507.2	230.0	24.4	9.1	6.1
65°	447.8	172.1	16.8	6.1	4.6
67.5°	388.4	117.3	10.7	3.0	1.5
70°	327.5	71.6	6.1	1.5	1.5
72.5°	269.6	36.6	3.0	1.5	1.5
75°	213.2	22.8	1.5	1.5	0.0
77.5°	158.4	12.2	1.5	1.5	0.0
80°	108.1	4.6	0.0	0.0	0.0
82.5°	62.4	1.5	0.0	0.0	0.0
85°	22.8	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	19.56	20.89	19.92	21.20	21.51	0.00	0.00	0.00	0.00	0.18
	3H	21.10	22.28	21.48	22.61	22.97	0.00	0.00	0.00	0.00	0.02
	4H	21.69	22.79	22.10	23.14	23.52	0.00	0.00	0.00	0.00	0.00
	6H	22.11	23.12	22.53	23.49	23.88	0.00	0.00	0.00	0.00	0.00
	8H	22.21	23.16	22.64	23.55	23.96	0.00	0.00	0.00	0.00	0.00
	12H	22.23	23.14	22.66	23.52	23.95	0.00	0.00	0.00	0.00	0.00
4H	2H	19.34	20.43	19.74	20.78	21.16	0.00	0.31	0.00	0.66	1.04
	3H	20.90	21.79	21.31	22.20	22.60	0.00	0.07	0.00	0.47	0.88
	4H	21.48	22.28	21.92	22.70	23.14	0.00	0.00	0.00	0.34	0.78
	6H	21.94	22.63	22.41	23.08	23.54	0.00	0.00	0.00	0.19	0.65
	8H	22.06	22.70	22.53	23.15	23.62	0.00	0.00	0.00	0.08	0.55
	12H	22.10	22.67	22.59	23.15	23.62	0.00	0.00	0.00	0.00	0.47
8H	4H	21.35	21.99	21.82	22.43	22.91	0.85	1.49	1.32	1.94	2.41
	6H	21.79	22.31	22.29	22.81	23.29	0.76	1.28	1.26	1.78	2.26
	8H	21.90	22.37	22.43	22.89	23.38	0.70	1.17	1.22	1.68	2.18
	12H	21.95	22.36	22.47	22.86	23.43	0.66	1.07	1.17	1.56	2.14
12H	4H	21.30	21.87	21.79	22.35	22.82	1.27	1.83	1.75	2.31	2.79
	6H	21.72	22.19	22.25	22.71	23.20	1.16	1.63	1.68	2.14	2.63
	8H	21.86	22.27	22.37	22.77	23.34	1.11	1.53	1.63	2.02	2.59