

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: P1055954

Luminaire Tested: S124R3DR-S1020D830-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055954
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-S1020D830-X4F0-XX-UDD-F-S
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

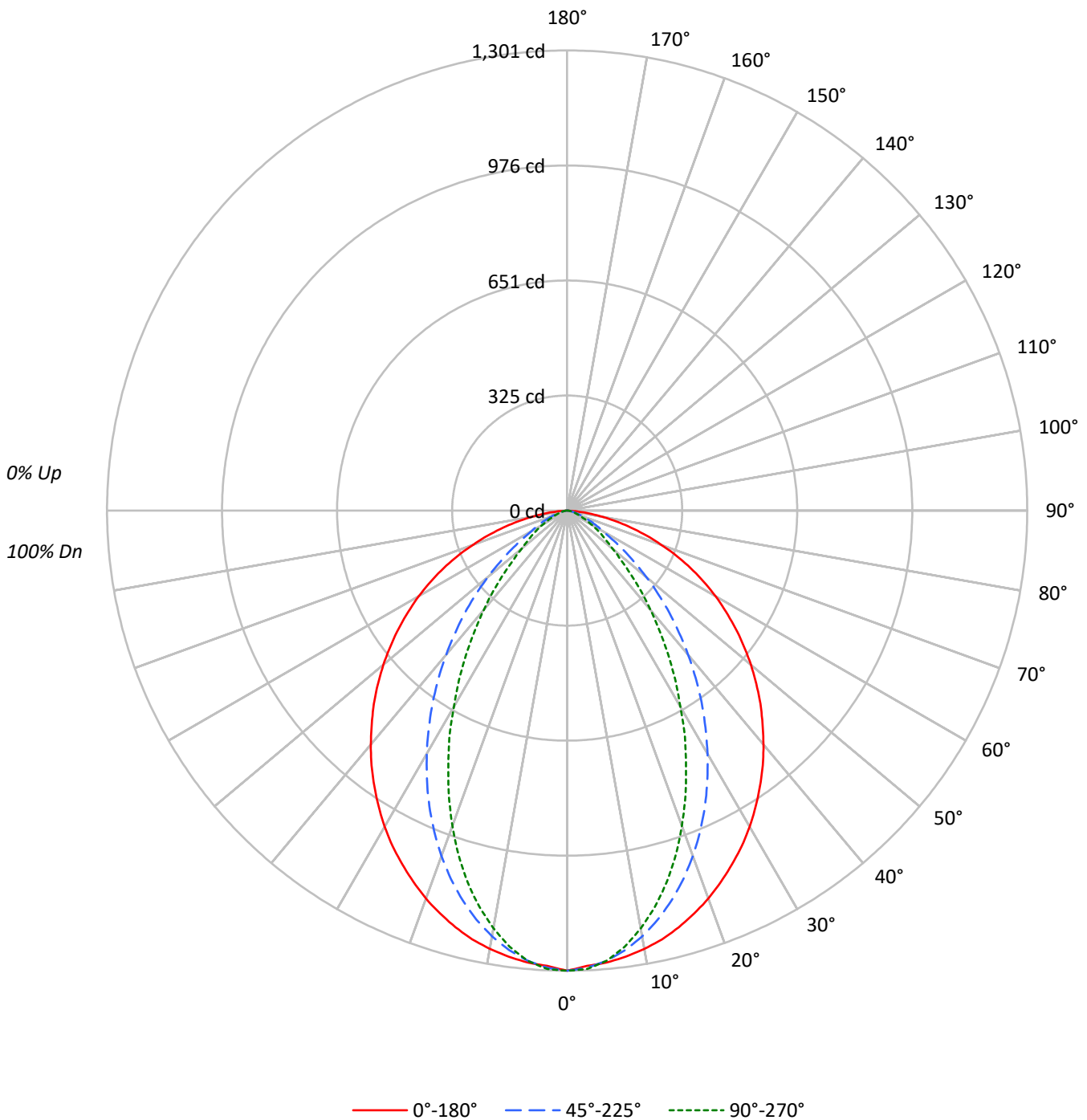
Lumens per Lamp: N/A
Luminaire Lumens: 2103.4 lumens
Efficiency: N/A
Efficacy: 60.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	11502	11502	11502
5°	11384	11341	11341
10°	11299	10972	10765
15°	11164	10444	9956
20°	10986	9778	8923
25°	10764	8992	7752
30°	10536	8100	6529
35°	10262	7151	5373
40°	9967	6137	4236
45°	9663	5104	3165
50°	9330	4015	2316
55°	8962	2969	1848
60°	8567	2057	1413
65°	8059	1596	1040
70°	7295	1127	814
75°	6371	786	622
80°	5117	616	555
85°	2830	487	487

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9663 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.7	5.7
10°-20°	322.4	15.3
20°-30°	430.0	20.4
30°-40°	433.0	20.6
40°-50°	355.1	16.9
50°-60°	242.7	11.5
60°-70°	135.6	6.4
70°-80°	53.8	2.6
80°-90°	10.2	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°	873.1	41.5
0°-40°	1306.0	62.1
0°-60°	1903.8	90.5
0°-90°	2103.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2103.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1301	1301	1301	1301	1301	
5°	1283	1297	1278	1272	1278	122
15°	1220	1206	1141	1101	1088	344
25°	1103	1049	922	828	795	508
35°	951	850	662	537	498	595
45°	773	631	408	287	253	596
55°	581	408	193	128	120	520
65°	385	194	76	54	50	381
75°	186	51	23	19	18	200
85°	28	5	5	5	5	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1300.9	1300.9	1300.9	1300.9	1300.9
2.5°	1288.7	1304.5	1293.6	1294.8	1297.2
5°	1282.7	1297.2	1277.8	1271.8	1277.8
7.5°	1271.8	1282.7	1253.6	1241.5	1243.9
10°	1258.5	1262.1	1222.1	1201.5	1199.1
12.5°	1241.5	1236.7	1184.6	1154.3	1147.0
15°	1219.7	1206.4	1141.0	1101.0	1087.7
17.5°	1194.3	1171.3	1092.5	1040.4	1021.1
20°	1167.6	1133.7	1039.2	972.6	948.4
22.5°	1136.1	1093.7	982.3	901.2	873.3
25°	1103.4	1048.9	921.7	828.5	794.6
27.5°	1069.5	1002.9	858.8	754.6	720.7
30°	1032.0	953.2	793.4	680.7	639.5
32.5°	992.0	902.4	727.9	608.0	569.3
35°	950.8	850.3	662.5	536.6	497.8
37.5°	908.4	797.0	597.1	468.7	430.0
40°	863.6	742.5	531.7	404.6	367.0
42.5°	817.6	686.8	468.7	344.0	308.9
45°	772.8	631.0	408.2	287.1	253.1
47.5°	725.5	575.3	348.8	233.8	204.7
50°	678.3	519.6	291.9	187.7	168.4
52.5°	629.8	463.9	239.8	153.8	140.5
55°	581.4	408.2	192.6	128.4	119.9
57.5°	532.9	352.5	149.0	109.0	99.3
60°	484.5	298.0	116.3	88.4	79.9
62.5°	434.8	243.5	95.7	70.3	63.0
65°	385.2	193.8	76.3	54.5	49.7
67.5°	335.5	147.8	58.1	42.4	38.8
70°	282.2	105.4	43.6	32.7	31.5
72.5°	236.2	71.5	31.5	25.4	24.2
75°	186.5	50.9	23.0	19.4	18.2
77.5°	144.1	32.7	17.0	15.7	14.5
80°	100.5	18.2	12.1	10.9	10.9
82.5°	61.8	9.7	8.5	7.3	7.3
85°	27.9	4.8	4.8	4.8	4.8
87.5°	4.8	2.4	2.4	2.4	2.4
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	19.21	20.62	19.58	20.93	21.24	10.30	11.71	10.66	12.02	12.33
	3H	20.80	22.05	21.18	22.38	22.74	10.89	12.14	11.27	12.47	12.84
	4H	21.39	22.56	21.79	22.91	23.29	11.05	12.22	11.45	12.57	12.95
	6H	21.82	22.90	22.24	23.27	23.66	11.16	12.23	11.57	12.60	12.99
	8H	21.94	22.96	22.36	23.35	23.75	11.18	12.20	11.60	12.59	12.99
	12H	21.98	22.95	22.41	23.34	23.77	11.18	12.16	11.62	12.54	12.97
4H	2H	19.06	20.23	19.47	20.58	20.96	10.88	12.05	11.28	12.40	12.78
	3H	20.71	21.67	21.12	22.07	22.48	11.60	12.55	12.01	12.96	13.36
	4H	21.32	22.18	21.75	22.59	23.04	11.80	12.66	12.23	13.08	13.52
	6H	21.81	22.55	22.27	23.00	23.46	11.97	12.71	12.43	13.15	13.62
	8H	21.95	22.64	22.42	23.09	23.56	12.00	12.69	12.47	13.14	13.61
	12H	22.03	22.64	22.51	23.12	23.59	12.02	12.64	12.51	13.12	13.59
8H	4H	21.21	21.90	21.68	22.35	22.82	12.07	12.76	12.54	13.21	13.68
	6H	21.69	22.26	22.19	22.75	23.23	12.27	12.84	12.77	13.34	13.82
	8H	21.84	22.34	22.36	22.86	23.35	12.33	12.84	12.85	13.35	13.84
	12H	21.93	22.38	22.44	22.87	23.44	12.39	12.84	12.90	13.33	13.90
12H	4H	21.17	21.79	21.66	22.27	22.74	12.10	12.71	12.58	13.19	13.67
	6H	21.64	22.15	22.16	22.66	23.15	12.30	12.81	12.82	13.33	13.82
	8H	21.80	22.25	22.31	22.74	23.31	12.40	12.85	12.91	13.34	13.91