

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: P1055970

Luminaire Tested: S124R3DR-S1020D930-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055970
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-7)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DR-S1020D930-X4F0-XX-UDD-F-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

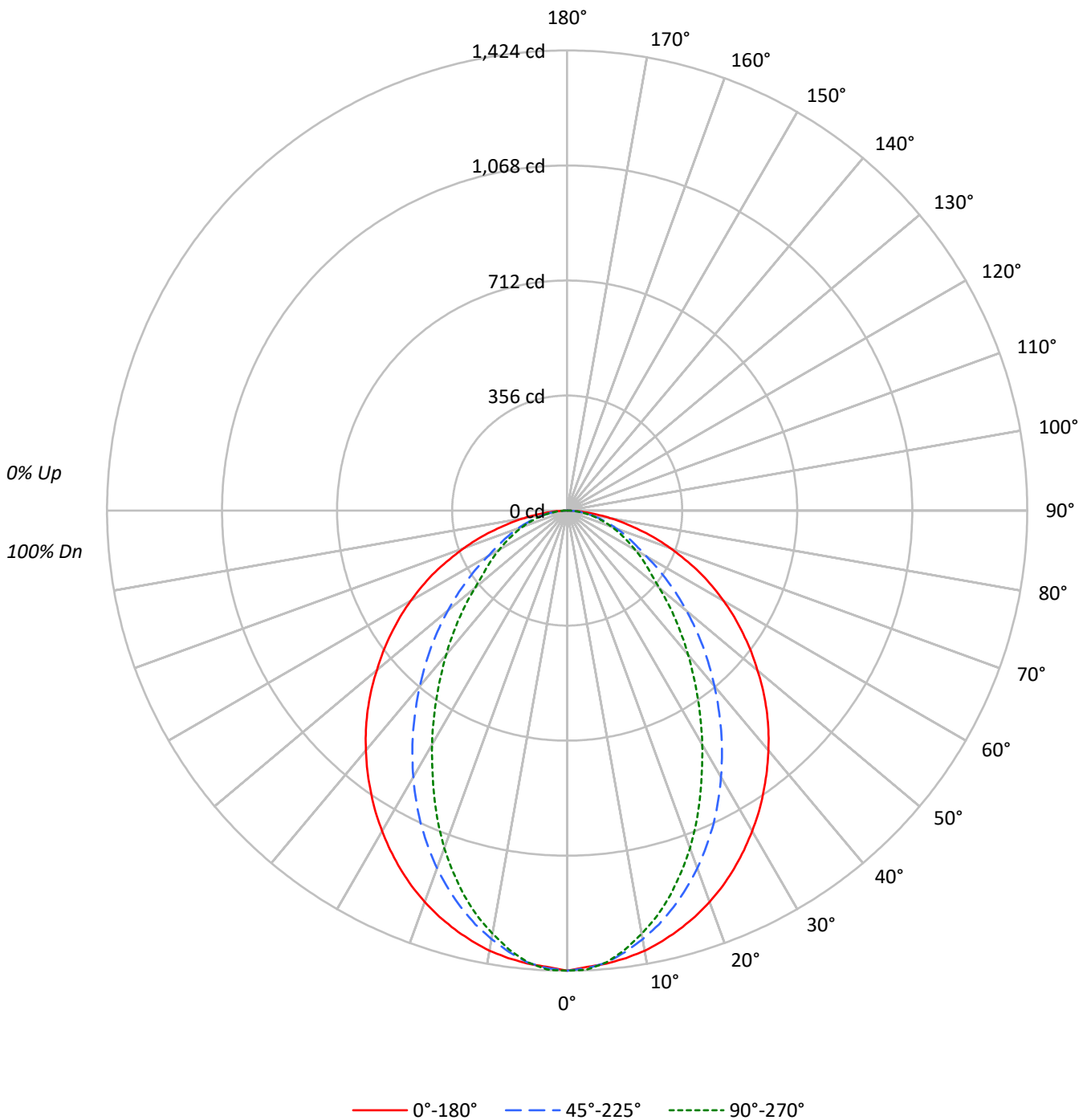
Lumens per Lamp: N/A
Luminaire Lumens: 2836.0 lumens
Efficiency: N/A
Efficacy: 81.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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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CATALOG NUMBER: S124R3DR-S1020D930-X4F0-XX-UDD-F-W

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	110	105	102	98	107	103	100	97	99	96	93	95	93	91	92	90	88	86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	76	73
3	93	83	75	69	90	81	74	69	79	73	68	76	71	67	73	69	65	63
4	85	74	66	60	83	73	65	60	71	64	59	68	63	58	66	61	57	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49
6	73	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39
8	64	51	43	38	62	51	43	38	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12588	12588	12588
5°	12488	12460	12451
10°	12416	12087	11936
15°	12285	11633	11278
20°	12125	11080	10459
25°	11928	10446	9506
30°	11692	9723	8536
35°	11444	8967	7600
40°	11185	8186	6723
45°	10912	7428	5908
50°	10577	6628	5102
55°	10255	5830	4635
60°	9894	5002	4299
65°	9448	4538	4010
70°	8776	4198	3792
75°	7946	3867	3580
80°	6935	3574	3360
85°	5316	3297	3084

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10912 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.6	4.7
10°-20°	359.6	12.7
20°-30°	497.9	17.6
30°-40°	534.4	18.8
40°-50°	486.0	17.1
50°-60°	382.7	13.5
60°-70°	261.9	9.2
70°-80°	141.0	5.0
80°-90°	39.9	1.4
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°	990.0	34.9
0°-40°	1524.4	53.8
0°-60°	2393.1	84.4
0°-90°	2836.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2836.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1424	1424	1424	1424	1424	
5°	1407	1423	1404	1397	1403	134
15°	1342	1328	1271	1236	1232	378
25°	1223	1172	1071	993	974	563
35°	1060	978	831	730	704	663
45°	873	762	594	491	472	673
55°	665	538	378	305	301	595
65°	452	323	217	193	192	446
75°	233	141	113	104	105	248
85°	52	36	32	30	30	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1423.8	1423.8	1423.8	1423.8	1423.8
2.5°	1413.4	1430.1	1417.6	1419.7	1421.7
5°	1407.1	1422.8	1403.9	1396.6	1402.9
7.5°	1396.6	1407.1	1377.7	1364.1	1370.4
10°	1383.0	1385.1	1346.3	1326.4	1329.5
12.5°	1364.1	1358.9	1311.7	1283.4	1285.5
15°	1342.1	1327.5	1270.9	1236.3	1232.1
17.5°	1317.0	1292.9	1225.8	1181.8	1173.4
20°	1288.7	1256.2	1177.6	1121.1	1111.6
22.5°	1257.3	1215.3	1125.2	1058.2	1044.6
25°	1222.7	1172.4	1070.8	993.2	974.4
27.5°	1185.0	1126.3	1012.1	927.2	903.1
30°	1145.2	1078.1	952.4	861.2	836.1
32.5°	1104.3	1028.9	891.6	795.2	769.0
35°	1060.3	977.5	830.8	730.3	704.1
37.5°	1015.2	924.1	769.0	667.4	640.2
40°	969.1	870.6	709.3	604.5	582.5
42.5°	922.0	816.2	650.6	545.9	526.0
45°	872.7	761.7	594.1	491.4	472.5
47.5°	822.5	706.2	536.4	440.0	422.2
50°	769.0	650.6	481.9	389.7	370.9
52.5°	717.7	594.1	429.6	340.5	331.1
55°	665.3	538.5	378.2	304.9	300.7
57.5°	612.9	483.0	331.1	276.6	272.4
60°	559.5	428.5	282.9	247.3	243.1
62.5°	506.0	375.1	247.3	219.0	216.9
65°	451.6	322.7	216.9	192.8	191.7
67.5°	393.9	272.4	189.6	169.7	168.7
70°	339.5	222.1	162.4	146.7	146.7
72.5°	288.1	176.0	137.3	124.7	124.7
75°	232.6	141.4	113.2	103.7	104.8
77.5°	183.3	111.1	91.2	84.9	84.9
80°	136.2	82.8	70.2	65.0	66.0
82.5°	92.2	57.6	50.3	47.1	47.1
85°	52.4	35.6	32.5	30.4	30.4
87.5°	18.9	16.8	15.7	13.6	14.7
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	19.94	21.47	20.31	21.78	22.09	15.72	17.24	16.08	17.56	17.87
	3H	21.72	23.09	22.09	23.41	23.78	17.33	18.70	17.71	19.03	19.39
	4H	22.39	23.67	22.79	24.02	24.40	17.96	19.25	18.36	19.60	19.97
	6H	22.90	24.09	23.31	24.45	24.84	18.46	19.65	18.87	20.02	20.41
	8H	23.06	24.19	23.49	24.58	24.98	18.63	19.76	19.06	20.15	20.55
	12H	23.16	24.24	23.59	24.63	25.06	18.75	19.84	19.18	20.22	20.65
4H	2H	20.04	21.32	20.44	21.67	22.05	16.44	17.72	16.84	18.07	18.45
	3H	21.98	23.05	22.39	23.45	23.85	18.25	19.32	18.66	19.71	20.12
	4H	22.74	23.70	23.17	24.12	24.55	18.98	19.95	19.41	20.36	20.80
	6H	23.37	24.21	23.83	24.65	25.11	19.60	20.44	20.06	20.88	21.34
	8H	23.59	24.38	24.05	24.82	25.29	19.81	20.60	20.28	21.04	21.51
	12H	23.75	24.45	24.23	24.93	25.40	19.98	20.68	20.46	21.16	21.63
8H	4H	22.79	23.58	23.26	24.02	24.49	19.37	20.16	19.83	20.60	21.07
	6H	23.49	24.14	23.99	24.63	25.11	20.10	20.75	20.60	21.24	21.72
	8H	23.76	24.34	24.27	24.85	25.34	20.39	20.97	20.90	21.48	21.97
	12H	23.98	24.49	24.49	24.99	25.55	20.64	21.15	21.15	21.64	22.21
12H	4H	22.79	23.49	23.27	23.97	24.44	19.43	20.13	19.91	20.61	21.08
	6H	23.49	24.07	24.00	24.58	25.07	20.19	20.77	20.70	21.28	21.77
	8H	23.80	24.31	24.30	24.80	25.37	20.53	21.05	21.04	21.54	22.11