

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: P1055976

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

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055976
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-S1020D940-X4F0-XX-UDD-F-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

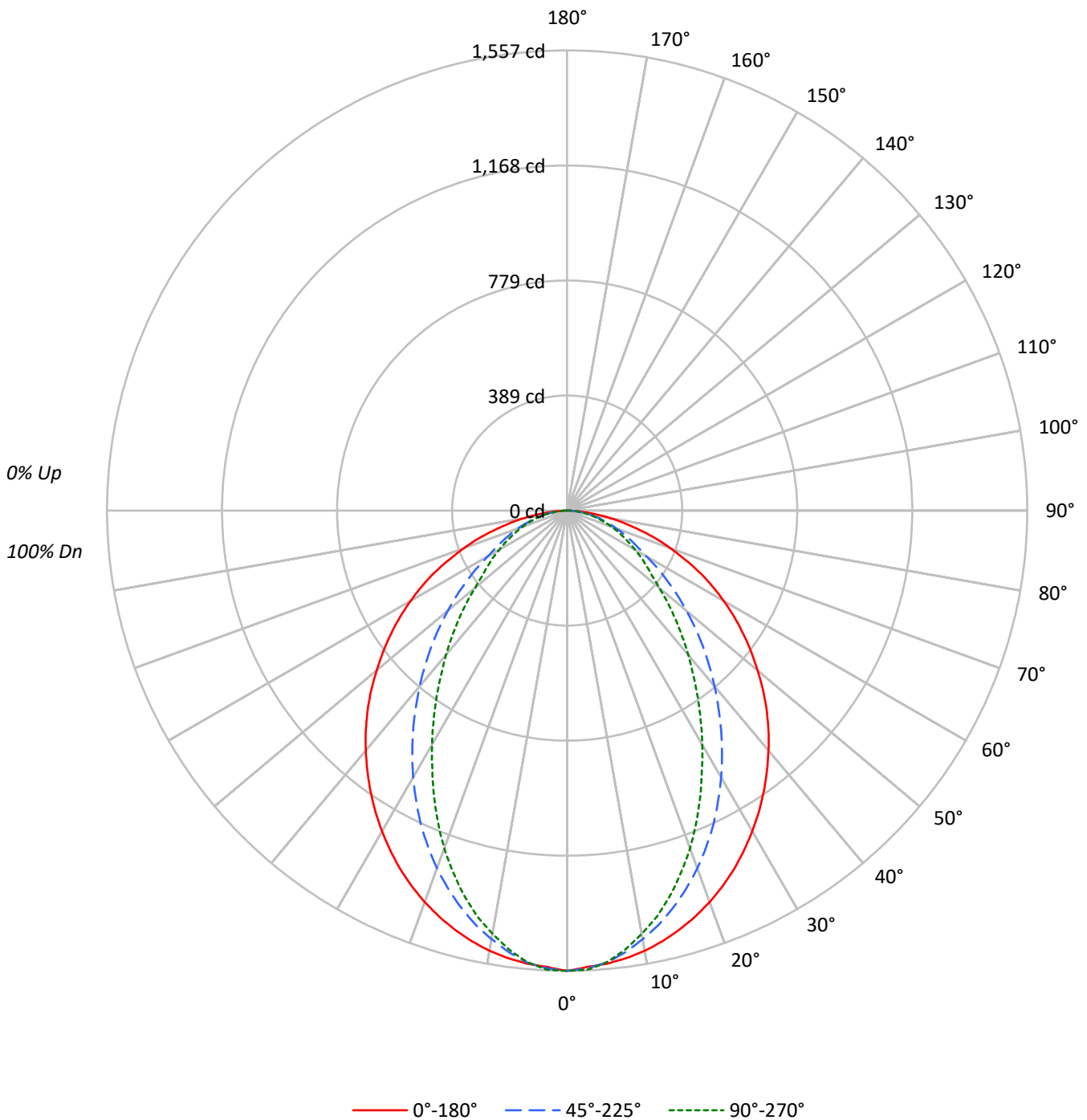
Lumens per Lamp: N/A
Luminaire Lumens: 3101.7 lumens
Efficiency: N/A
Efficacy: 89.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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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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	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°	13769	13769	13769
5°	13659	13628	13618
10°	13580	13220	13055
15°	13436	12723	12335
20°	13262	12119	11439
25°	13046	11425	10396
30°	12787	10634	9335
35°	12517	9808	8311
40°	12234	8954	7353
45°	11935	8124	6462
50°	11569	7250	5580
55°	11217	6377	5070
60°	10820	5471	4702
65°	10333	4962	4387
70°	9598	4591	4146
75°	8690	4229	3915
80°	7586	3910	3676
85°	5813	3601	3368

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11935 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.0	4.7
10°-20°	393.3	12.7
20°-30°	544.5	17.6
30°-40°	584.5	18.8
40°-50°	531.5	17.1
50°-60°	418.6	13.5
60°-70°	286.5	9.2
70°-80°	154.2	5.0
80°-90°	43.7	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°	1082.8	34.9
0°-40°	1667.3	53.8
0°-60°	2617.4	84.4
0°-90°	3101.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3101.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1557	1557	1557	1557	1557	
5°	1539	1556	1536	1528	1534	146
15°	1468	1452	1390	1352	1348	414
25°	1337	1282	1171	1086	1066	616
35°	1160	1069	909	799	770	725
45°	954	833	650	537	517	736
55°	728	589	414	334	329	651
65°	494	353	237	211	210	487
75°	254	155	124	113	115	272
85°	57	39	36	33	33	69
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1557.3	1557.3	1557.3	1557.3	1557.3
2.5°	1545.8	1564.2	1550.4	1552.7	1555.0
5°	1539.0	1556.1	1535.5	1527.5	1534.4
7.5°	1527.5	1539.0	1506.9	1492.0	1498.8
10°	1512.6	1514.9	1472.5	1450.7	1454.2
12.5°	1492.0	1486.2	1434.7	1403.7	1406.0
15°	1467.9	1451.9	1390.0	1352.2	1347.6
17.5°	1440.4	1414.0	1340.7	1292.6	1283.4
20°	1409.5	1373.9	1288.0	1226.1	1215.8
22.5°	1375.1	1329.3	1230.7	1157.4	1142.5
25°	1337.3	1282.3	1171.1	1086.3	1065.7
27.5°	1296.0	1231.9	1106.9	1014.1	987.8
30°	1252.5	1179.1	1041.6	941.9	914.4
32.5°	1207.8	1125.3	975.2	869.7	841.1
35°	1159.7	1069.1	908.7	798.7	770.0
37.5°	1110.4	1010.7	841.1	729.9	700.1
40°	1060.0	952.2	775.8	661.2	637.1
42.5°	1008.4	892.7	711.6	597.0	575.2
45°	954.5	833.1	649.7	537.4	516.8
47.5°	899.5	772.3	586.7	481.3	461.8
50°	841.1	711.6	527.1	426.3	405.7
52.5°	784.9	649.7	469.8	372.4	362.1
55°	727.7	589.0	413.7	333.5	328.9
57.5°	670.4	528.3	362.1	302.5	297.9
60°	611.9	468.7	309.4	270.4	265.9
62.5°	553.5	410.2	270.4	239.5	237.2
65°	493.9	352.9	237.2	210.8	209.7
67.5°	430.9	297.9	207.4	185.6	184.5
70°	371.3	242.9	177.6	160.4	160.4
72.5°	315.1	192.5	150.1	136.4	136.4
75°	254.4	154.7	123.8	113.4	114.6
77.5°	200.5	121.5	99.7	92.8	92.8
80°	149.0	90.5	76.8	71.0	72.2
82.5°	100.8	63.0	55.0	51.6	51.6
85°	57.3	39.0	35.5	33.2	33.2
87.5°	20.6	18.3	17.2	14.9	16.0
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	20.25	21.78	20.62	22.09	22.41	16.03	17.55	16.39	17.87	18.18
	3H	22.03	23.40	22.41	23.73	24.09	17.64	19.01	18.02	19.34	19.70
	4H	22.70	23.99	23.10	24.33	24.71	18.27	19.56	18.67	19.91	20.29
	6H	23.21	24.40	23.62	24.76	25.16	18.77	19.96	19.18	20.33	20.72
	8H	23.37	24.50	23.80	24.89	25.29	18.94	20.07	19.37	20.46	20.87
	12H	23.47	24.56	23.90	24.94	25.37	19.06	20.15	19.49	20.53	20.96
4H	2H	20.35	21.63	20.75	21.98	22.36	16.75	18.03	17.15	18.38	18.76
	3H	22.29	23.36	22.70	23.76	24.16	18.56	19.63	18.97	20.03	20.43
	4H	23.05	24.01	23.48	24.43	24.87	19.29	20.26	19.73	20.67	21.11
	6H	23.68	24.52	24.14	24.97	25.42	19.91	20.75	20.37	21.19	21.65
	8H	23.90	24.69	24.37	25.13	25.60	20.12	20.91	20.59	21.35	21.82
	12H	24.06	24.76	24.54	25.24	25.71	20.29	20.99	20.77	21.47	21.94
8H	4H	23.11	23.89	23.57	24.33	24.80	19.68	20.47	20.14	20.91	21.38
	6H	23.80	24.45	24.30	24.94	25.42	20.41	21.06	20.91	21.55	22.03
	8H	24.07	24.66	24.59	25.16	25.65	20.70	21.28	21.21	21.79	22.28
	12H	24.29	24.81	24.80	25.30	25.86	20.95	21.46	21.46	21.95	22.52
12H	4H	23.10	23.80	23.58	24.28	24.75	19.74	20.44	20.22	20.92	21.39
	6H	23.80	24.38	24.31	24.89	25.38	20.50	21.08	21.01	21.59	22.08
	8H	24.11	24.62	24.62	25.11	25.68	20.84	21.36	21.35	21.85	22.42