

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: P1055394

Luminaire Tested: S122R3DR-H865D840-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055394
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-1)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122R3DR-H865D840-X4F0-XX-UDD-F-W
Description: DEFINE 2, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

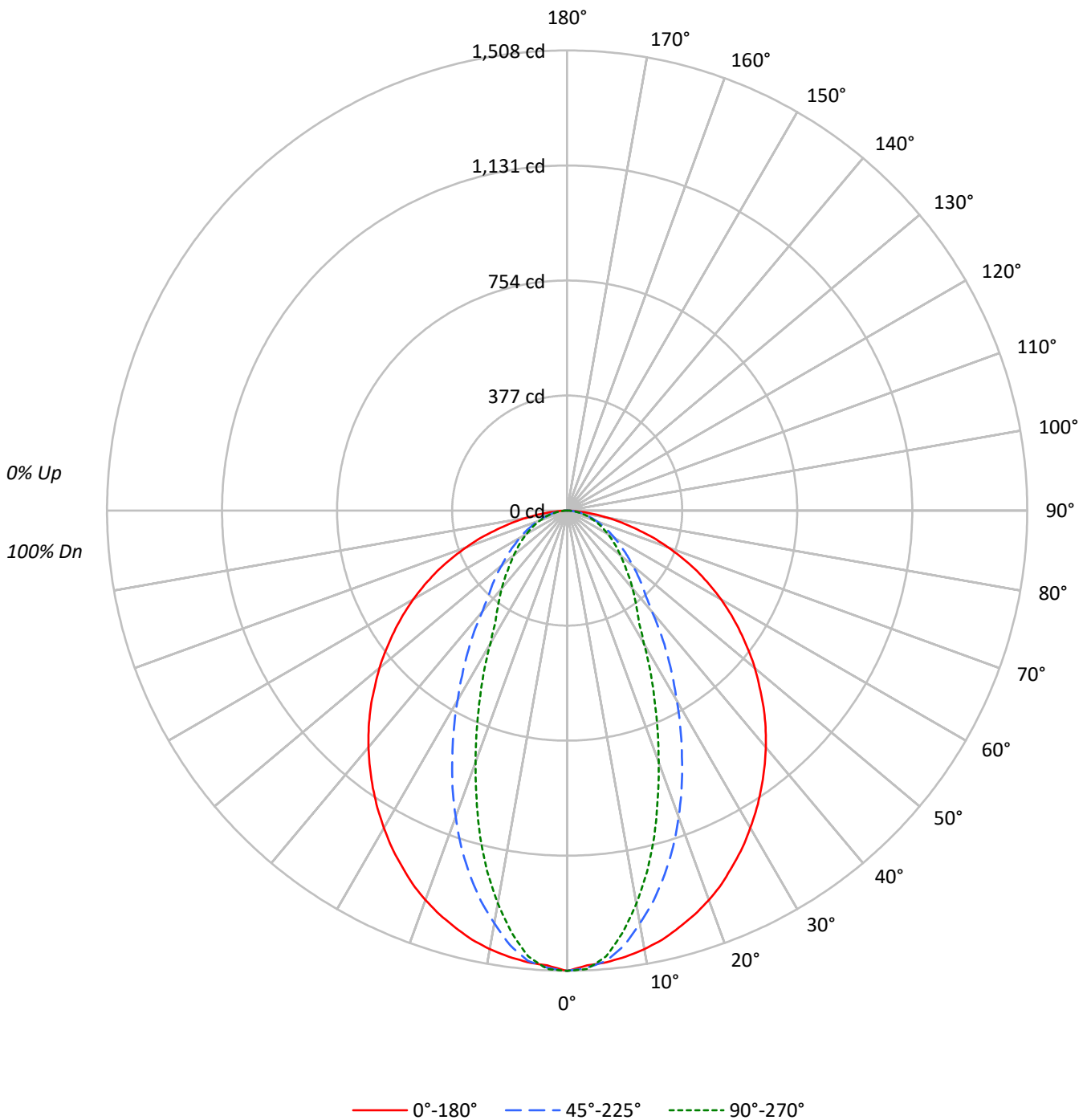
Lumens per Lamp: N/A
Luminaire Lumens: 2281.5 lumens
Efficiency: N/A
Efficacy: 73.8 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.71 / 0.9
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	101	97	100	97	94	96	94	92	92	91	89	87
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66
4	87	76	69	63	85	75	68	62	73	66	61	71	65	61	68	64	60	58
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	54	52
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48	46
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44	42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38
9	62	50	43	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35
10	59	47	39	35	58	46	39	34	45	39	34	44	38	34	43	38	34	32

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	28578	28578	28578
5°	28255	28158	27894
10°	28072	26422	25160
15°	27754	24218	21644
20°	27386	21537	17672
25°	26839	18613	14104
30°	26265	15727	11008
35°	25668	13156	9247
40°	25046	10667	8233
45°	24398	9327	7366
50°	23680	8253	6729
55°	22871	7455	6249
60°	22079	6786	5832
65°	21034	6218	5483
70°	19493	5800	5168
75°	17261	5263	4890
80°	14718	4953	4539
85°	10152	4391	4108

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 24398 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.2	6.1
10°-20°	349.0	15.3
20°-30°	430.0	18.8
30°-40°	412.6	18.1
40°-50°	355.9	15.6
50°-60°	276.1	12.1
60°-70°	189.0	8.3
70°-80°	102.6	4.5
80°-90°	28.1	1.2
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°	917.2	40.2
0°-40°	1329.8	58.3
0°-60°	1961.7	86.0
0°-90°	2281.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2281.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1508	1508	1508	1508	1508	
5°	1486	1507	1481	1462	1467	141
15°	1415	1372	1235	1134	1104	399
25°	1284	1146	890	726	675	592
35°	1110	880	569	424	400	694
45°	911	613	348	288	275	702
55°	692	368	226	196	189	620
65°	469	200	139	126	122	463
75°	236	92	72	68	67	253
85°	47	23	20	20	19	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1508.4	1508.4	1508.4	1508.4	1508.4
2.5°	1492.0	1517.2	1499.5	1499.5	1503.3
5°	1485.7	1507.1	1480.6	1461.7	1466.7
7.5°	1474.3	1489.4	1436.5	1396.1	1394.8
10°	1459.2	1460.4	1373.4	1320.4	1307.8
12.5°	1440.3	1420.1	1309.1	1229.6	1210.7
15°	1415.0	1372.1	1234.7	1133.8	1103.5
17.5°	1388.5	1323.0	1155.2	1029.1	987.5
20°	1358.3	1263.7	1068.2	924.4	876.5
22.5°	1324.2	1206.9	981.2	823.5	773.1
25°	1283.9	1146.4	890.4	726.4	674.7
27.5°	1244.8	1084.6	803.4	640.7	587.7
30°	1200.6	1017.8	718.9	558.7	503.2
32.5°	1156.5	949.7	640.7	480.5	438.9
35°	1109.8	880.3	568.8	423.8	399.8
37.5°	1061.9	812.2	500.7	385.9	364.5
40°	1012.7	744.1	431.3	349.3	332.9
42.5°	962.3	677.2	383.4	319.1	303.9
45°	910.6	612.9	348.1	287.5	274.9
47.5°	855.1	548.6	314.0	261.1	249.7
50°	803.4	486.8	280.0	237.1	228.3
52.5°	747.9	426.3	252.2	215.7	208.1
55°	692.4	368.3	225.7	195.5	189.2
57.5°	638.2	312.8	200.5	176.6	171.5
60°	582.7	268.6	179.1	158.9	153.9
62.5°	525.9	233.3	158.9	142.5	137.5
65°	469.2	200.5	138.7	126.1	122.3
67.5°	409.9	169.0	121.1	111.0	108.5
70°	351.9	141.3	104.7	95.8	93.3
72.5°	295.1	114.8	88.3	82.0	79.5
75°	235.8	92.1	71.9	68.1	66.8
77.5°	184.1	71.9	58.0	55.5	54.2
80°	134.9	53.0	45.4	42.9	41.6
82.5°	89.5	36.6	32.8	31.5	30.3
85°	46.7	22.7	20.2	20.2	18.9
87.5°	15.1	10.1	10.1	10.1	8.8
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	21.26	22.73	21.62	23.04	23.35	16.06	17.53	16.43	17.84	18.16
	3H	23.59	24.90	23.97	25.23	25.59	17.71	19.03	18.09	19.36	19.72
	4H	24.48	25.72	24.88	26.07	26.45	18.35	19.58	18.75	19.93	20.31
	6H	25.14	26.28	25.56	26.65	27.04	18.84	19.98	19.25	20.35	20.74
	8H	25.35	26.44	25.78	26.83	27.23	19.01	20.09	19.44	20.48	20.89
	12H	25.47	26.51	25.90	26.89	27.32	19.13	20.16	19.56	20.55	20.98
4H	2H	21.27	22.51	21.67	22.86	23.24	16.78	18.01	17.18	18.36	18.74
	3H	23.69	24.71	24.10	25.11	25.51	18.63	19.65	19.04	20.05	20.45
	4H	24.62	25.54	25.05	25.95	26.39	19.37	20.30	19.81	20.71	21.15
	6H	25.39	26.19	25.85	26.64	27.10	19.99	20.79	20.45	21.23	21.69
	8H	25.66	26.41	26.13	26.86	27.33	20.20	20.95	20.67	21.40	21.87
	12H	25.84	26.51	26.32	26.99	27.46	20.37	21.03	20.85	21.51	21.98
8H	4H	24.61	25.36	25.07	25.80	26.27	19.75	20.50	20.22	20.95	21.41
	6H	25.42	26.03	25.91	26.53	27.00	20.49	21.11	20.99	21.60	22.08
	8H	25.72	26.27	26.23	26.78	27.27	20.79	21.34	21.30	21.85	22.34
	12H	25.95	26.44	26.46	26.93	27.50	21.03	21.52	21.54	22.01	22.58
12H	4H	24.59	25.26	25.07	25.74	26.21	19.81	20.48	20.29	20.96	21.43
	6H	25.39	25.95	25.91	26.46	26.95	20.58	21.13	21.09	21.64	22.13
	8H	25.73	26.21	26.24	26.71	27.27	20.93	21.42	21.44	21.91	22.48