

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: P1055957

Luminaire Tested: S124R3DR-S1020D835-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055957
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-S1020D835-X4F0-XX-UDD-F-S
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

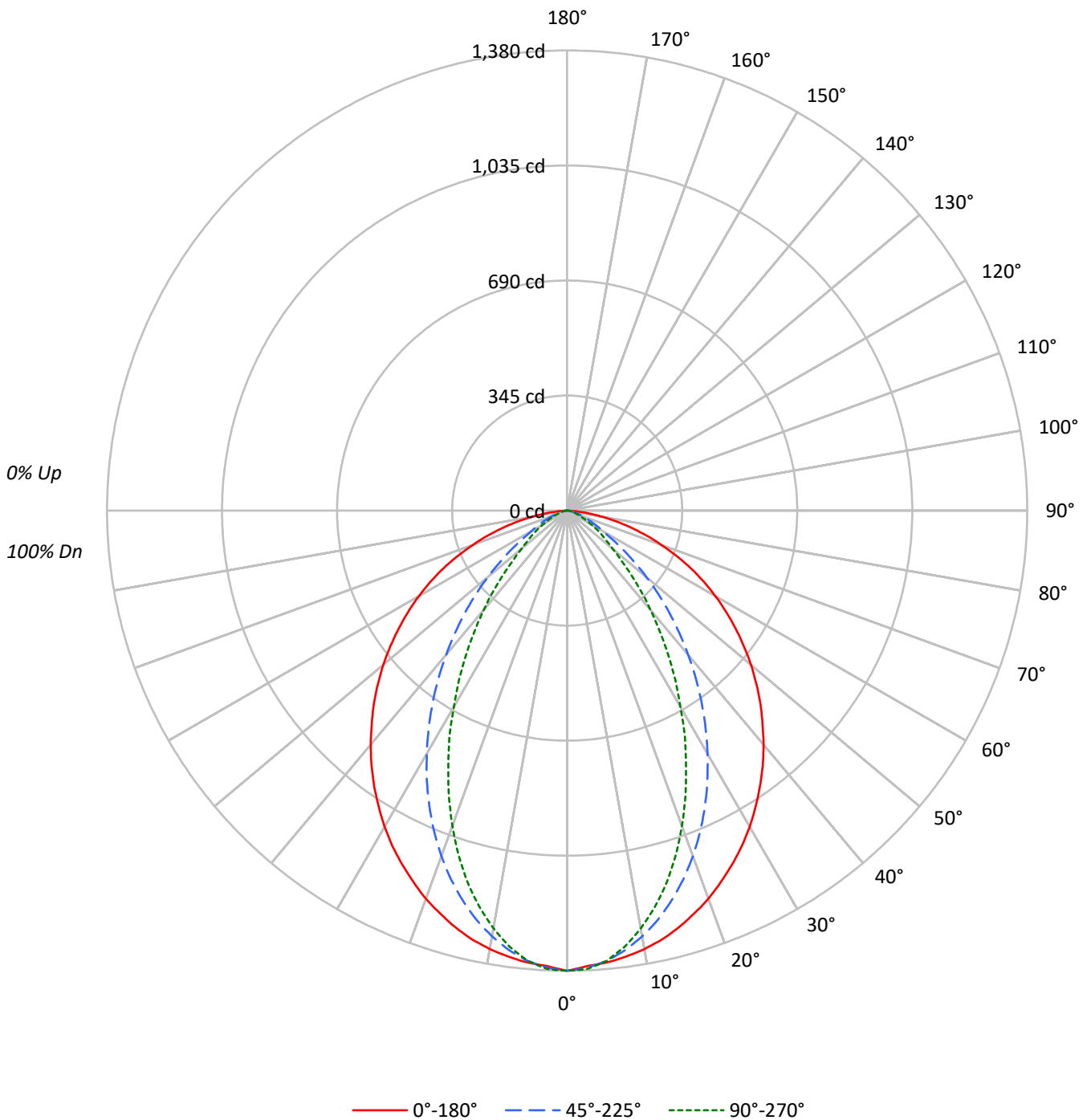
Lumens per Lamp: N/A
Luminaire Lumens: 2231.7 lumens
Efficiency: N/A
Efficacy: 64.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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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CATALOG NUMBER: S124R3DR-S1020D835-X4F0-XX-UDD-F-S

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°	12203	12203	12203
5°	12078	12032	12032
10°	11987	11641	11422
15°	11845	11080	10563
20°	11656	10374	9467
25°	11421	9540	8224
30°	11178	8593	6927
35°	10888	7587	5701
40°	10576	6511	4494
45°	10252	5415	3358
50°	9898	4260	2457
55°	9508	3149	1961
60°	9089	2182	1499
65°	8550	1695	1103
70°	7740	1197	863
75°	6760	834	659
80°	5433	657	591
85°	3003	517	517

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10252 cd/sqm



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CATALOG NUMBER: S124R3DR-S1020D835-X4F0-XX-UDD-F-S

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.0	5.7
10°-20°	342.1	15.3
20°-30°	456.2	20.4
30°-40°	459.4	20.6
40°-50°	376.7	16.9
50°-60°	257.5	11.5
60°-70°	143.9	6.4
70°-80°	57.1	2.6
80°-90°	10.8	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°	926.3	41.5
0°-40°	1385.7	62.1
0°-60°	2019.9	90.5
0°-90°	2231.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2231.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1380	1380	1380	1380	1380	
5°	1361	1376	1356	1349	1356	129
15°	1294	1280	1210	1168	1154	365
25°	1171	1113	978	879	843	539
35°	1009	902	703	569	528	631
45°	820	670	433	305	269	632
55°	617	433	204	136	127	552
65°	409	206	81	58	53	404
75°	198	54	24	21	19	212
85°	30	5	5	5	5	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1380.2	1380.2	1380.2	1380.2	1380.2
2.5°	1367.3	1384.0	1372.4	1373.7	1376.3
5°	1360.9	1376.3	1355.7	1349.3	1355.7
7.5°	1349.3	1360.9	1330.0	1317.2	1319.8
10°	1335.2	1339.0	1296.6	1274.8	1272.2
12.5°	1317.2	1312.1	1256.8	1224.7	1217.0
15°	1294.1	1279.9	1210.5	1168.1	1154.0
17.5°	1267.1	1242.7	1159.1	1103.9	1083.3
20°	1238.8	1202.8	1102.6	1031.9	1006.2
22.5°	1205.4	1160.4	1042.2	956.1	926.5
25°	1170.7	1112.9	977.9	879.0	843.0
27.5°	1134.7	1064.0	911.1	800.6	764.6
30°	1094.9	1011.3	841.7	722.2	678.5
32.5°	1052.5	957.4	772.3	645.1	604.0
35°	1008.8	902.1	702.9	569.3	528.2
37.5°	963.8	845.6	633.5	497.3	456.2
40°	916.3	787.7	564.1	429.2	389.4
42.5°	867.4	728.6	497.3	365.0	327.7
45°	819.9	669.5	433.1	304.6	268.6
47.5°	769.8	610.4	370.1	248.0	217.2
50°	719.6	551.3	309.7	199.2	178.6
52.5°	668.2	492.2	254.4	163.2	149.1
55°	616.8	433.1	204.3	136.2	127.2
57.5°	565.4	374.0	158.1	115.7	105.4
60°	514.0	316.1	123.4	93.8	84.8
62.5°	461.3	258.3	101.5	74.5	66.8
65°	408.7	205.6	81.0	57.8	52.7
67.5°	356.0	156.8	61.7	45.0	41.1
70°	299.4	111.8	46.3	34.7	33.4
72.5°	250.6	75.8	33.4	27.0	25.7
75°	197.9	54.0	24.4	20.6	19.3
77.5°	152.9	34.7	18.0	16.7	15.4
80°	106.7	19.3	12.9	11.6	11.6
82.5°	65.5	10.3	9.0	7.7	7.7
85°	29.6	5.1	5.1	5.1	5.1
87.5°	5.1	2.6	2.6	2.6	2.6
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P1055957

CATALOG NUMBER: S124R3DR-S1020D835-X4F0-XX-UDD-F-S

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	19.42	20.82	19.78	21.14	21.45	10.51	11.91	10.87	12.23	12.54
	3H	21.00	22.25	21.38	22.58	22.95	11.10	12.35	11.48	12.68	13.04
	4H	21.60	22.77	22.00	23.12	23.50	11.26	12.43	11.66	12.78	13.16
	6H	22.03	23.10	22.44	23.47	23.87	11.36	12.44	11.78	12.81	13.20
	8H	22.14	23.16	22.57	23.55	23.96	11.38	12.40	11.81	12.79	13.20
	12H	22.18	23.16	22.62	23.54	23.97	11.39	12.37	11.82	12.75	13.18
4H	2H	19.27	20.44	19.67	20.79	21.17	11.09	12.26	11.49	12.61	12.99
	3H	20.92	21.88	21.33	22.28	22.68	11.80	12.76	12.22	13.16	13.57
	4H	21.52	22.38	21.96	22.80	23.24	12.01	12.87	12.44	13.28	13.72
	6H	22.02	22.76	22.48	23.20	23.67	12.17	12.92	12.64	13.36	13.82
	8H	22.16	22.85	22.63	23.30	23.77	12.21	12.90	12.67	13.34	13.81
	12H	22.23	22.85	22.72	23.33	23.80	12.23	12.85	12.72	13.33	13.80
8H	4H	21.42	22.11	21.88	22.55	23.02	12.28	12.97	12.75	13.42	13.89
	6H	21.90	22.46	22.40	22.96	23.44	12.48	13.05	12.98	13.54	14.02
	8H	22.04	22.55	22.56	23.06	23.55	12.54	13.05	13.06	13.56	14.05
	12H	22.13	22.58	22.65	23.08	23.64	12.60	13.05	13.11	13.54	14.11
12H	4H	21.38	21.99	21.86	22.47	22.95	12.31	12.92	12.79	13.40	13.87
	6H	21.84	22.35	22.36	22.87	23.36	12.51	13.02	13.03	13.53	14.02
	8H	22.01	22.46	22.52	22.95	23.52	12.60	13.05	13.12	13.55	14.12