

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: P1055956

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

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055956
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-8)
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-B
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

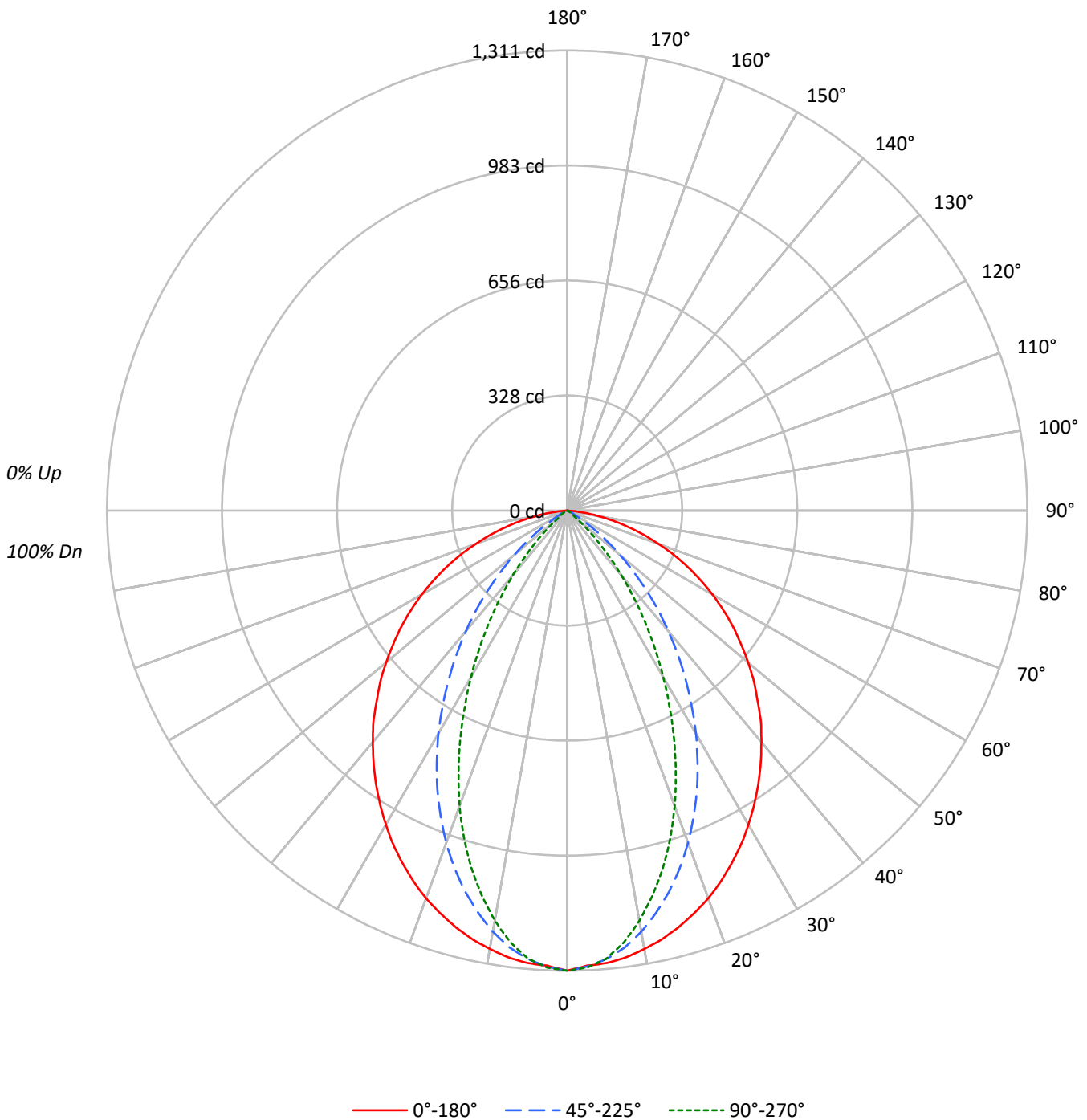
Lumens per Lamp: N/A
Luminaire Lumens: 1832.0 lumens
Efficiency: N/A
Efficacy: 52.8 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 34.7
Input Voltage (V): 120
Input Current (Ain): 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	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90					90			
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80					80			
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	71					71			
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65	64					64			
5	84	74	66	61	83	73	66	61	71	65	60	69	64	60	67	63	59	57					57			
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54	52					52			
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	49	47					47			
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45	43					43			
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40					40			
10	62	50	43	39	61	50	43	39	49	43	39	48	42	39	47	42	38	37					37			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11589	11589	11589
5°	11485	11382	11371
10°	11387	10937	10649
15°	11245	10280	9646
20°	11063	9479	8427
25°	10819	8537	7033
30°	10548	7491	5588
35°	10250	6353	4161
40°	9937	5176	2773
45°	9593	3952	1527
50°	9262	2704	424
55°	8894	1466	277
60°	8452	454	159
65°	7904	295	82
70°	7142	132	34
75°	6145	44	0
80°	4643	0	0
85°	1958	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9593 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.9	6.6
10°-20°	317.5	17.3
20°-30°	410.2	22.4
30°-40°	392.1	21.4
40°-50°	293.2	16.0
50°-60°	174.5	9.5
60°-70°	88.6	4.8
70°-80°	30.8	1.7
80°-90°	4.2	0.2
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°	848.6	46.3
0°-40°	1240.7	67.7
0°-60°	1708.4	93.3
0°-90°	1832.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1832.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1311	1311	1311	1311	1311	
5°	1294	1304	1282	1276	1281	123
15°	1228	1203	1123	1070	1054	346
25°	1109	1032	875	760	721	511
35°	950	819	589	438	386	594
45°	767	589	316	168	122	593
55°	577	358	95	22	18	515
65°	378	145	14	5	4	374
75°	180	19	1	1	0	191
85°	19	0	0	0	0	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1310.8	1310.8	1310.8	1310.8	1310.8
2.5°	1297.9	1313.3	1300.5	1301.8	1303.1
5°	1294.1	1304.3	1282.5	1276.1	1281.2
7.5°	1283.8	1287.6	1255.5	1238.8	1240.1
10°	1268.4	1264.5	1218.2	1190.0	1186.1
12.5°	1250.4	1237.5	1173.3	1132.1	1123.1
15°	1228.5	1202.8	1123.1	1070.5	1053.8
17.5°	1202.8	1165.6	1067.9	998.5	977.9
20°	1175.8	1124.4	1007.5	921.4	895.7
22.5°	1143.7	1078.2	942.0	840.4	808.3
25°	1109.0	1031.9	875.1	759.5	720.9
27.5°	1073.0	981.8	804.5	677.2	632.3
30°	1033.2	929.1	733.8	593.7	547.4
32.5°	992.1	875.1	660.5	516.6	465.2
35°	949.7	818.6	588.6	438.2	385.5
37.5°	906.0	762.0	519.2	363.7	309.7
40°	861.0	704.2	448.5	293.0	240.3
42.5°	817.3	646.4	381.7	226.2	177.3
45°	767.2	588.6	316.1	168.3	122.1
47.5°	722.2	532.0	253.2	114.4	72.0
50°	673.4	471.6	196.6	66.8	30.8
52.5°	624.5	415.1	143.9	29.6	23.1
55°	577.0	358.5	95.1	21.8	18.0
57.5°	526.9	302.0	51.4	16.7	12.9
60°	478.0	246.7	25.7	12.9	9.0
62.5°	427.9	194.0	20.6	7.7	5.1
65°	377.8	145.2	14.1	5.1	3.9
67.5°	327.7	98.9	9.0	2.6	1.3
70°	276.3	60.4	5.1	1.3	1.3
72.5°	227.5	30.8	2.6	1.3	1.3
75°	179.9	19.3	1.3	1.3	0.0
77.5°	133.6	10.3	1.3	1.3	0.0
80°	91.2	3.9	0.0	0.0	0.0
82.5°	52.7	1.3	0.0	0.0	0.0
85°	19.3	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0
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	18.97	20.30	19.33	20.61	20.92	0.00	0.00	0.00	0.00	0.00
	3H	20.51	21.69	20.89	22.02	22.38	0.00	0.00	0.00	0.00	0.00
	4H	21.10	22.20	21.51	22.55	22.93	0.00	0.00	0.00	0.00	0.00
	6H	21.52	22.53	21.94	22.90	23.29	0.00	0.00	0.00	0.00	0.00
	8H	21.62	22.57	22.05	22.96	23.37	0.00	0.00	0.00	0.00	0.00
	12H	21.64	22.55	22.07	22.93	23.36	0.00	0.00	0.00	0.00	0.00
4H	2H	18.75	19.84	19.15	20.19	20.57	0.00	0.00	0.00	0.06	0.44
	3H	20.31	21.20	20.72	21.61	22.01	0.00	0.00	0.00	0.00	0.28
	4H	20.89	21.69	21.33	22.11	22.55	0.00	0.00	0.00	0.00	0.19
	6H	21.35	22.04	21.81	22.48	22.95	0.00	0.00	0.00	0.00	0.06
	8H	21.47	22.11	21.94	22.56	23.03	0.00	0.00	0.00	0.00	0.00
	12H	21.51	22.08	22.00	22.56	23.03	0.00	0.00	0.00	0.00	0.00
8H	4H	20.76	21.40	21.23	21.84	22.32	0.26	0.90	0.73	1.35	1.82
	6H	21.20	21.72	21.70	22.21	22.70	0.17	0.70	0.68	1.19	1.67
	8H	21.31	21.78	21.84	22.30	22.79	0.11	0.58	0.63	1.10	1.59
	12H	21.36	21.77	21.88	22.27	22.84	0.07	0.48	0.58	0.98	1.55
12H	4H	20.71	21.28	21.20	21.76	22.23	0.68	1.24	1.16	1.73	2.20
	6H	21.13	21.60	21.66	22.12	22.61	0.57	1.04	1.09	1.55	2.05
	8H	21.27	21.68	21.78	22.18	22.75	0.53	0.94	1.04	1.43	2.01