

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: P1055962

Luminaire Tested: S124R3DR-S1020D850-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055962
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-S1020D850-X4F0-XX-UDD-F-B
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

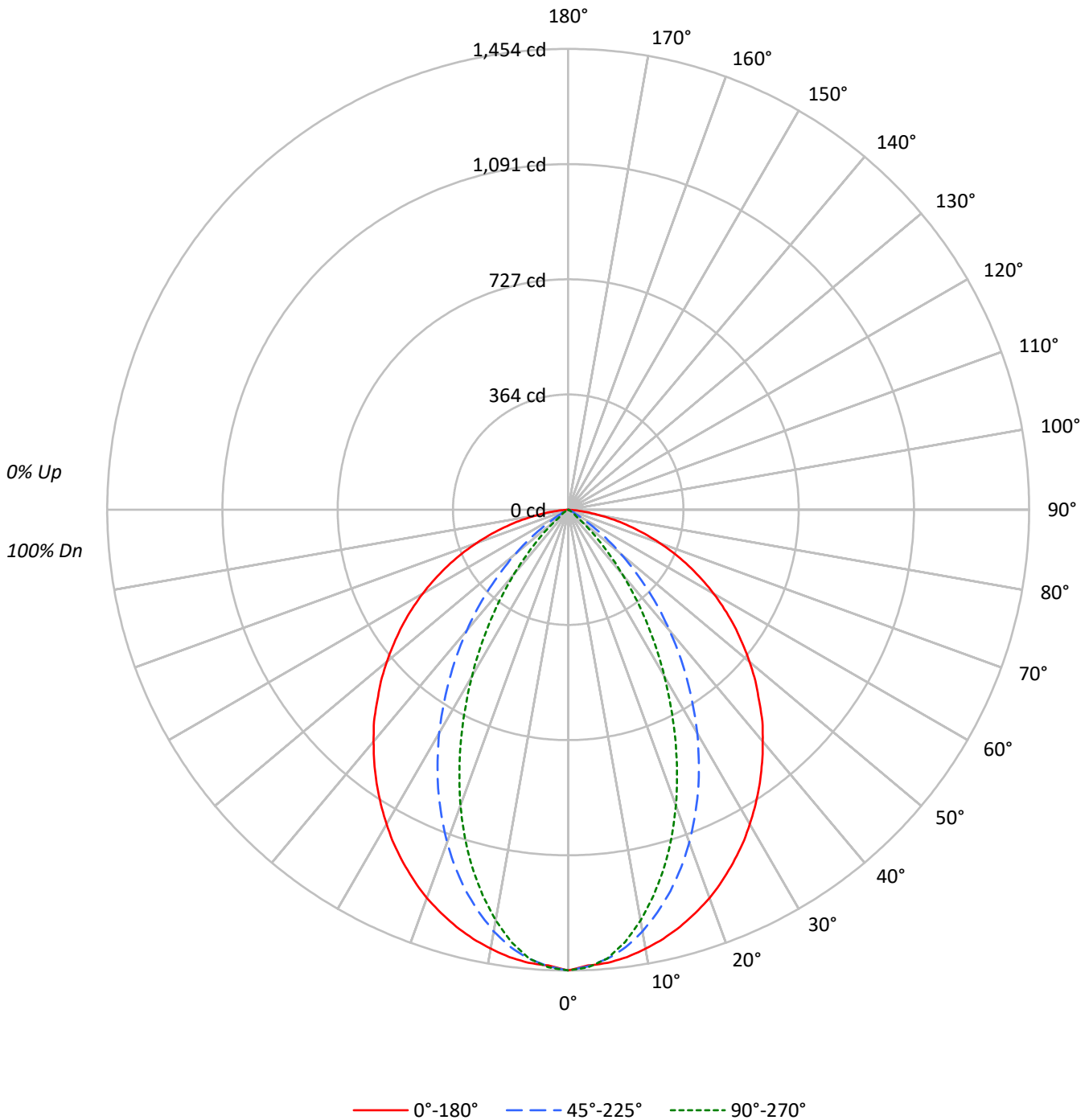
Lumens per Lamp: N/A
Luminaire Lumens: 2031.7 lumens
Efficiency: N/A
Efficacy: 58.6 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 34.7
Input Voltage (V): 120
Input Current (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

TEST NUMBER: P1055962

CATALOG NUMBER: S124R3DR-S1020D850-X4F0-XX-UDD-F-B

Luminous Intensity Polar Plot





TEST NUMBER: P1055962

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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°	12852	12852	12852
5°	12737	12623	12611
10°	12628	12129	11809
15°	12470	11401	10697
20°	12269	10512	9346
25°	11998	9468	7799
30°	11698	8308	6198
35°	11368	7045	4614
40°	11020	5741	3076
45°	10638	4384	1693
50°	10272	2999	470
55°	9864	1626	308
60°	9375	504	177
65°	8766	328	90
70°	7921	147	36
75°	6815	48	0
80°	5153	0	0
85°	2171	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10638 cd/sqm

TEST NUMBER: P1055962

CATALOG NUMBER: S124R3DR-S1020D850-X4F0-XX-UDD-F-B

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.1	6.6
10°-20°	352.1	17.3
20°-30°	454.9	22.4
30°-40°	434.8	21.4
40°-50°	325.2	16.0
50°-60°	193.5	9.5
60°-70°	98.3	4.8
70°-80°	34.2	1.7
80°-90°	4.7	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°	941.1	46.3
0°-40°	1375.9	67.7
0°-60°	1894.6	93.3
0°-90°	2031.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2031.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1454	1454	1454	1454	1454	
5°	1435	1446	1422	1415	1421	136
15°	1362	1334	1246	1187	1169	384
25°	1230	1144	970	842	800	566
35°	1053	908	653	486	428	659
45°	851	653	351	187	135	658
55°	640	398	106	24	20	571
65°	419	161	16	6	4	414
75°	200	21	1	1	0	212
85°	21	0	0	0	0	35
90°	0	0	0	0	0	



TEST NUMBER: P1055962

CATALOG NUMBER: S124R3DR-S1020D850-X4F0-XX-UDD-F-B

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1453.6	1453.6	1453.6	1453.6	1453.6
2.5°	1439.4	1456.5	1442.2	1443.7	1445.1
5°	1435.1	1446.5	1422.3	1415.2	1420.9
7.5°	1423.7	1428.0	1392.4	1373.8	1375.3
10°	1406.6	1402.3	1351.0	1319.7	1315.4
12.5°	1386.7	1372.4	1301.1	1255.5	1245.6
15°	1362.4	1333.9	1245.6	1187.1	1168.6
17.5°	1333.9	1292.6	1184.3	1107.3	1084.5
20°	1304.0	1247.0	1117.3	1021.8	993.3
22.5°	1268.4	1195.7	1044.6	932.0	896.4
25°	1229.9	1144.4	970.5	842.3	799.5
27.5°	1190.0	1088.8	892.1	751.0	701.2
30°	1145.8	1030.4	813.8	658.4	607.1
32.5°	1100.2	970.5	732.5	572.9	515.9
35°	1053.2	907.8	652.7	486.0	427.5
37.5°	1004.7	845.1	575.8	403.3	343.5
40°	954.8	781.0	497.4	324.9	266.5
42.5°	906.4	716.8	423.3	250.8	196.7
45°	850.8	652.7	350.6	186.7	135.4
47.5°	800.9	590.0	280.8	126.8	79.8
50°	746.8	523.0	218.0	74.1	34.2
52.5°	692.6	460.3	159.6	32.8	25.7
55°	639.9	397.6	105.5	24.2	20.0
57.5°	584.3	334.9	57.0	18.5	14.3
60°	530.2	273.6	28.5	14.3	10.0
62.5°	474.6	215.2	22.8	8.6	5.7
65°	419.0	161.0	15.7	5.7	4.3
67.5°	363.4	109.7	10.0	2.9	1.4
70°	306.4	67.0	5.7	1.4	1.4
72.5°	252.2	34.2	2.9	1.4	1.4
75°	199.5	21.4	1.4	1.4	0.0
77.5°	148.2	11.4	1.4	1.4	0.0
80°	101.2	4.3	0.0	0.0	0.0
82.5°	58.4	1.4	0.0	0.0	0.0
85°	21.4	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



TEST NUMBER: P1055962

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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	19.33	20.66	19.69	20.97	21.28	0.00	0.00	0.00	0.00	0.00
	3H	20.87	22.05	21.25	22.38	22.74	0.00	0.00	0.00	0.00	0.00
	4H	21.46	22.56	21.87	22.91	23.29	0.00	0.00	0.00	0.00	0.00
	6H	21.88	22.89	22.29	23.26	23.65	0.00	0.00	0.00	0.00	0.00
	8H	21.98	22.93	22.41	23.32	23.73	0.00	0.00	0.00	0.00	0.00
	12H	22.00	22.91	22.43	23.29	23.72	0.00	0.00	0.00	0.00	0.00
4H	2H	19.10	20.20	19.51	20.55	20.93	0.00	0.07	0.00	0.42	0.81
	3H	20.67	21.56	21.08	21.97	22.37	0.00	0.00	0.00	0.24	0.64
	4H	21.25	22.05	21.69	22.47	22.91	0.00	0.00	0.00	0.10	0.55
	6H	21.71	22.40	22.17	22.84	23.31	0.00	0.00	0.00	0.00	0.42
	8H	21.83	22.47	22.30	22.92	23.39	0.00	0.00	0.00	0.00	0.32
	12H	21.87	22.44	22.36	22.92	23.39	0.00	0.00	0.00	0.00	0.24
8H	4H	21.12	21.76	21.58	22.20	22.67	0.62	1.26	1.09	1.71	2.18
	6H	21.56	22.08	22.06	22.57	23.06	0.53	1.05	1.03	1.55	2.03
	8H	21.67	22.14	22.19	22.66	23.15	0.47	0.94	0.99	1.45	1.95
	12H	21.72	22.13	22.24	22.63	23.20	0.43	0.84	0.94	1.33	1.91
12H	4H	21.07	21.63	21.56	22.12	22.59	1.03	1.60	1.52	2.08	2.56
	6H	21.49	21.96	22.02	22.48	22.97	0.93	1.40	1.45	1.91	2.40
	8H	21.63	22.04	22.14	22.54	23.11	0.88	1.30	1.40	1.79	2.36