

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: P1055958

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

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055958
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-S1020D835-X4F0-XX-UDD-F-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

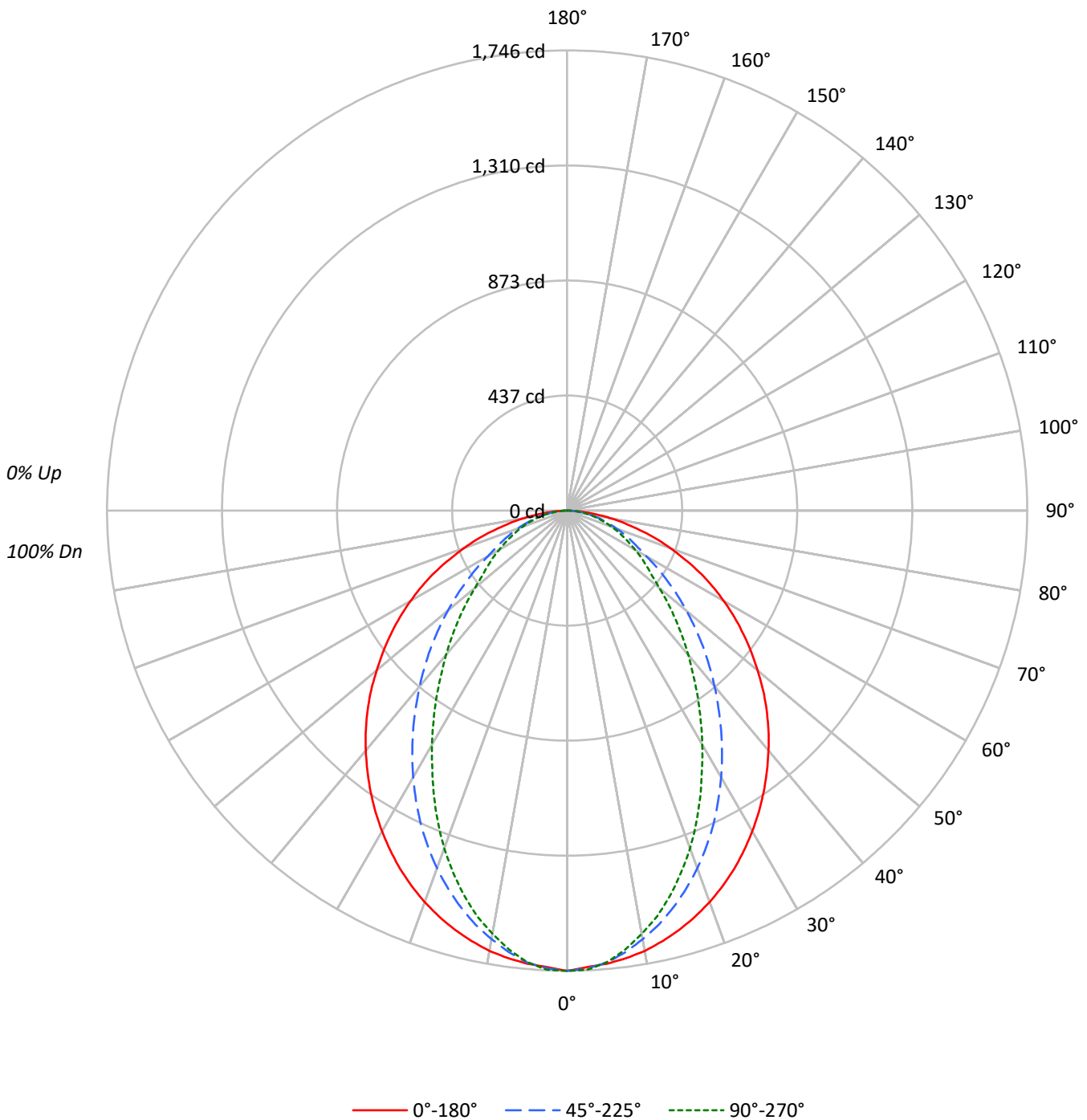
Lumens per Lamp: N/A
Luminaire Lumens: 3478.4 lumens
Efficiency: N/A
Efficacy: 100.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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					86			
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	76	73					73			
3	93	83	75	69	90	81	74	69	79	73	68	76	71	67	73	69	65	63					63			
4	85	74	66	60	83	73	65	60	71	64	59	68	63	58	66	61	57	55					55			
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49					49			
6	73	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43					43			
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39					39			
8	64	51	43	38	62	51	43	38	49	42	37	48	42	37	47	41	37	35					35			
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32					32			
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29					29			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15441	15441	15441
5°	15317	15283	15271
10°	15229	14825	14640
15°	15068	14268	13832
20°	14872	13590	12829
25°	14630	12812	11659
30°	14340	11925	10469
35°	14037	10999	9321
40°	13719	10041	8246
45°	13385	9110	7247
50°	12973	8130	6257
55°	12578	7151	5685
60°	12134	6136	5271
65°	11588	5565	4920
70°	10764	5149	4650
75°	9746	4741	4390
80°	8508	4384	4124
85°	6523	4037	3784

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13385 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.6	4.7
10°-20°	441.0	12.7
20°-30°	610.7	17.6
30°-40°	655.4	18.8
40°-50°	596.1	17.1
50°-60°	469.4	13.5
60°-70°	321.3	9.2
70°-80°	172.9	5.0
80°-90°	49.0	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°	1214.3	34.9
0°-40°	1869.8	53.8
0°-60°	2935.2	84.4
0°-90°	3478.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3478.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1746	1746	1746	1746	1746	
5°	1726	1745	1722	1713	1721	164
15°	1646	1628	1559	1516	1511	464
25°	1500	1438	1313	1218	1195	690
35°	1300	1199	1019	896	864	814
45°	1070	934	729	603	580	825
55°	816	660	464	374	369	730
65°	554	396	266	236	235	546
75°	285	174	139	127	128	305
85°	64	44	40	37	37	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1746.4	1746.4	1746.4	1746.4	1746.4
2.5°	1733.6	1754.1	1738.7	1741.3	1743.8
5°	1725.8	1745.1	1722.0	1713.0	1720.7
7.5°	1713.0	1725.8	1689.9	1673.2	1680.9
10°	1696.3	1698.9	1651.3	1626.9	1630.7
12.5°	1673.2	1666.7	1608.9	1574.2	1576.8
15°	1646.2	1628.2	1558.8	1516.4	1511.2
17.5°	1615.3	1585.8	1503.5	1449.6	1439.3
20°	1580.6	1540.8	1444.4	1375.0	1363.5
22.5°	1542.1	1490.7	1380.2	1297.9	1281.2
25°	1499.7	1438.0	1313.3	1218.2	1195.1
27.5°	1453.4	1381.4	1241.4	1137.3	1107.7
30°	1404.6	1322.3	1168.1	1056.3	1025.5
32.5°	1354.5	1261.9	1093.6	975.4	943.2
35°	1300.5	1199.0	1019.1	895.7	863.6
37.5°	1245.2	1133.4	943.2	818.6	785.2
40°	1188.7	1067.9	870.0	741.5	714.5
42.5°	1130.9	1001.1	798.0	669.5	645.1
45°	1070.5	934.2	728.6	602.7	579.6
47.5°	1008.8	866.1	658.0	539.7	517.9
50°	943.2	798.0	591.1	478.0	454.9
52.5°	880.3	728.6	526.9	417.6	406.1
55°	816.0	660.5	463.9	374.0	368.8
57.5°	751.8	592.4	406.1	339.3	334.1
60°	686.2	525.6	347.0	303.3	298.1
62.5°	620.7	460.1	303.3	268.6	266.0
65°	553.9	395.8	266.0	236.5	235.2
67.5°	483.2	334.1	232.6	208.2	206.9
70°	416.4	272.4	199.2	179.9	179.9
72.5°	353.4	215.9	168.3	152.9	152.9
75°	285.3	173.5	138.8	127.2	128.5
77.5°	224.9	136.2	111.8	104.1	104.1
80°	167.1	101.5	86.1	79.7	81.0
82.5°	113.1	70.7	61.7	57.8	57.8
85°	64.3	43.7	39.8	37.3	37.3
87.5°	23.1	20.6	19.3	16.7	18.0
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	20.65	22.18	21.02	22.49	22.80	16.43	17.95	16.79	18.27	18.58
	3H	22.43	23.80	22.80	24.12	24.49	18.04	19.41	18.42	19.74	20.10
	4H	23.10	24.38	23.50	24.73	25.11	18.67	19.96	19.07	20.31	20.68
	6H	23.61	24.80	24.02	25.16	25.55	19.17	20.36	19.58	20.73	21.12
	8H	23.77	24.90	24.20	25.29	25.69	19.34	20.47	19.77	20.86	21.26
	12H	23.87	24.95	24.30	25.34	25.77	19.46	20.55	19.89	20.93	21.36
4H	2H	20.75	22.03	21.15	22.38	22.76	17.15	18.43	17.55	18.78	19.16
	3H	22.69	23.76	23.10	24.16	24.56	18.95	20.02	19.37	20.42	20.83
	4H	23.45	24.41	23.88	24.83	25.26	19.69	20.66	20.12	21.07	21.51
	6H	24.08	24.92	24.54	25.36	25.82	20.31	21.15	20.76	21.59	22.05
	8H	24.30	25.09	24.76	25.53	26.00	20.52	21.31	20.99	21.75	22.22
	12H	24.46	25.16	24.94	25.64	26.11	20.69	21.39	21.17	21.87	22.34
8H	4H	23.50	24.29	23.97	24.73	25.20	20.08	20.86	20.54	21.31	21.78
	6H	24.20	24.85	24.70	25.34	25.82	20.81	21.46	21.31	21.95	22.43
	8H	24.47	25.05	24.98	25.56	26.05	21.10	21.68	21.61	22.19	22.68
	12H	24.69	25.20	25.20	25.70	26.26	21.35	21.86	21.85	22.35	22.92
12H	4H	23.50	24.20	23.98	24.68	25.15	20.14	20.84	20.62	21.32	21.79
	6H	24.20	24.78	24.71	25.29	25.78	20.89	21.48	21.41	21.99	22.48
	8H	24.50	25.02	25.01	25.51	26.08	21.24	21.76	21.75	22.25	22.81