

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: P1056123

Luminaire Tested: S124R3DR-H1195D840-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056123
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-H1195D840-X4F0-XX-UDD-F-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

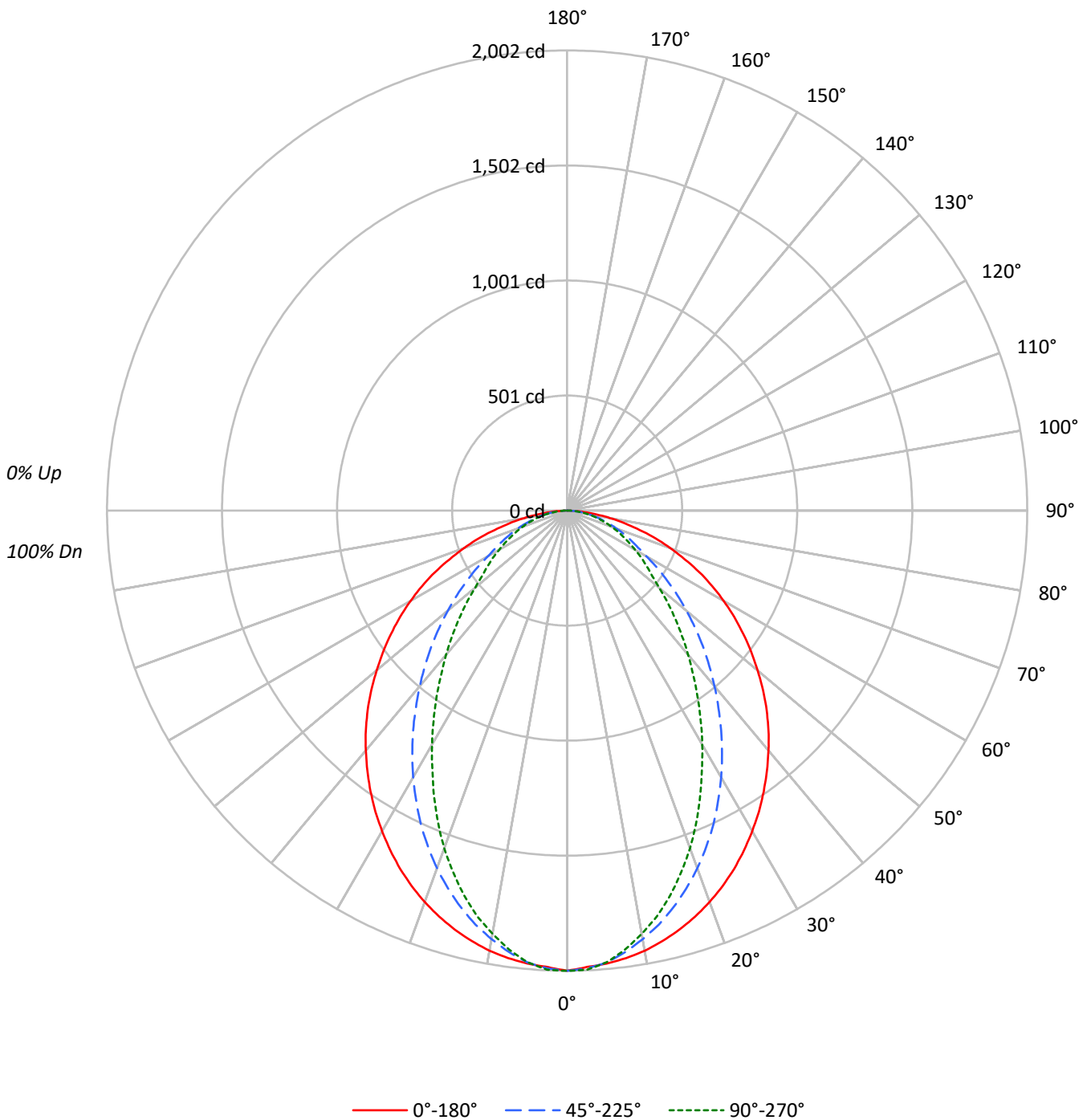
Lumens per Lamp: N/A
Luminaire Lumens: 3987.9 lumens
Efficiency: N/A
Efficacy: 109.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 36.6
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	102	98	107	103	100	97	99	96	93	95	93	91	92	90	88	86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	76	73
3	93	83	75	69	90	81	74	69	79	73	68	76	71	67	73	69	65	63
4	85	74	66	60	83	73	65	60	71	64	59	68	63	58	66	61	57	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49
6	73	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39
8	64	51	43	38	62	51	43	38	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17702	17702	17702
5°	17560	17521	17508
10°	17459	16997	16785
15°	17275	16358	15859
20°	17050	15581	14707
25°	16772	14689	13366
30°	16440	13672	12003
35°	16093	12610	10685
40°	15729	11512	9454
45°	15344	10444	8307
50°	14874	9322	7173
55°	14420	8199	6517
60°	13911	7034	6044
65°	13285	6381	5640
70°	12338	5904	5333
75°	11174	5435	5032
80°	9750	5025	4725
85°	7476	4636	4332

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 15344 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.4	4.7
10°-20°	505.6	12.7
20°-30°	700.1	17.6
30°-40°	751.4	18.8
40°-50°	683.4	17.1
50°-60°	538.1	13.5
60°-70°	368.3	9.2
70°-80°	198.3	5.0
80°-90°	56.1	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°	1392.2	34.9
0°-40°	2143.6	53.8
0°-60°	3365.1	84.4
0°-90°	3987.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3987.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2002	2002	2002	2002	2002	
5°	1979	2001	1974	1964	1973	188
15°	1887	1867	1787	1738	1733	532
25°	1719	1649	1506	1397	1370	792
35°	1491	1375	1168	1027	990	933
45°	1227	1071	835	691	664	946
55°	936	757	532	429	423	836
65°	635	454	305	271	270	627
75°	327	199	159	146	147	349
85°	74	50	46	43	43	89
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2002.2	2002.2	2002.2	2002.2	2002.2
2.5°	1987.5	2011.0	1993.3	1996.3	1999.2
5°	1978.6	2000.7	1974.2	1963.9	1972.7
7.5°	1963.9	1978.6	1937.4	1918.2	1927.0
10°	1944.7	1947.7	1893.2	1865.2	1869.6
12.5°	1918.2	1910.8	1844.5	1804.8	1807.7
15°	1887.3	1866.6	1787.1	1738.5	1732.6
17.5°	1851.9	1818.0	1723.7	1661.9	1650.1
20°	1812.1	1766.5	1656.0	1576.4	1563.1
22.5°	1767.9	1709.0	1582.3	1488.0	1468.9
25°	1719.3	1648.6	1505.7	1396.7	1370.1
27.5°	1666.3	1583.8	1423.2	1303.9	1270.0
30°	1610.3	1516.0	1339.2	1211.0	1175.7
32.5°	1552.8	1446.8	1253.8	1118.2	1081.4
35°	1491.0	1374.6	1168.3	1026.9	990.0
37.5°	1427.6	1299.4	1081.4	938.5	900.2
40°	1362.8	1224.3	997.4	850.1	819.1
42.5°	1296.5	1147.7	914.9	767.6	739.6
45°	1227.2	1071.1	835.3	691.0	664.4
47.5°	1156.5	993.0	754.3	618.8	593.7
50°	1081.4	914.9	677.7	548.1	521.5
52.5°	1009.2	835.3	604.0	478.8	465.6
55°	935.5	757.3	531.9	428.7	422.8
57.5°	861.9	679.2	465.6	388.9	383.1
60°	786.7	602.6	397.8	347.7	341.8
62.5°	711.6	527.4	347.7	307.9	305.0
65°	635.0	453.8	305.0	271.1	269.6
67.5°	554.0	383.1	266.7	238.7	237.2
70°	477.3	312.3	228.4	206.3	206.3
72.5°	405.2	247.5	193.0	175.3	175.3
75°	327.1	198.9	159.1	145.9	147.3
77.5°	257.8	156.2	128.2	119.3	119.3
80°	191.5	116.4	98.7	91.3	92.8
82.5°	129.6	81.0	70.7	66.3	66.3
85°	73.7	50.1	45.7	42.7	42.7
87.5°	26.5	23.6	22.1	19.2	20.6
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	21.13	22.65	21.49	22.96	23.28	16.90	18.43	17.27	18.74	19.06
	3H	22.90	24.27	23.28	24.60	24.96	18.51	19.88	18.89	20.21	20.57
	4H	23.57	24.86	23.97	25.21	25.59	19.15	20.43	19.55	20.78	21.16
	6H	24.08	25.27	24.49	25.64	26.03	19.64	20.83	20.06	21.20	21.59
	8H	24.24	25.38	24.67	25.77	26.17	19.82	20.95	20.24	21.34	21.74
	12H	24.34	25.43	24.77	25.81	26.24	19.94	21.02	20.37	21.40	21.83
4H	2H	21.22	22.51	21.62	22.86	23.23	17.62	18.91	18.02	19.26	19.63
	3H	23.17	24.24	23.58	24.64	25.04	19.43	20.50	19.84	20.90	21.30
	4H	23.92	24.89	24.35	25.30	25.74	20.17	21.13	20.60	21.55	21.98
	6H	24.56	25.40	25.01	25.84	26.30	20.78	21.62	21.24	22.06	22.52
	8H	24.78	25.56	25.24	26.00	26.47	21.00	21.78	21.46	22.23	22.69
	12H	24.93	25.63	25.41	26.11	26.58	21.17	21.87	21.65	22.35	22.82
8H	4H	23.98	24.76	24.44	25.21	25.68	20.56	21.34	21.02	21.78	22.25
	6H	24.68	25.33	25.17	25.82	26.30	21.29	21.94	21.78	22.43	22.90
	8H	24.95	25.53	25.46	26.04	26.53	21.57	22.16	22.09	22.67	23.15
	12H	25.16	25.68	25.67	26.17	26.73	21.82	22.33	22.33	22.83	23.39
12H	4H	23.97	24.67	24.45	25.15	25.62	20.61	21.31	21.09	21.79	22.26
	6H	24.67	25.25	25.18	25.76	26.25	21.37	21.95	21.88	22.46	22.95
	8H	24.98	25.49	25.49	25.99	26.55	21.72	22.23	22.23	22.73	23.29