

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: P1055736

Luminaire Tested: S123R3DR-H1165D950-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055736
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-H1165D950-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

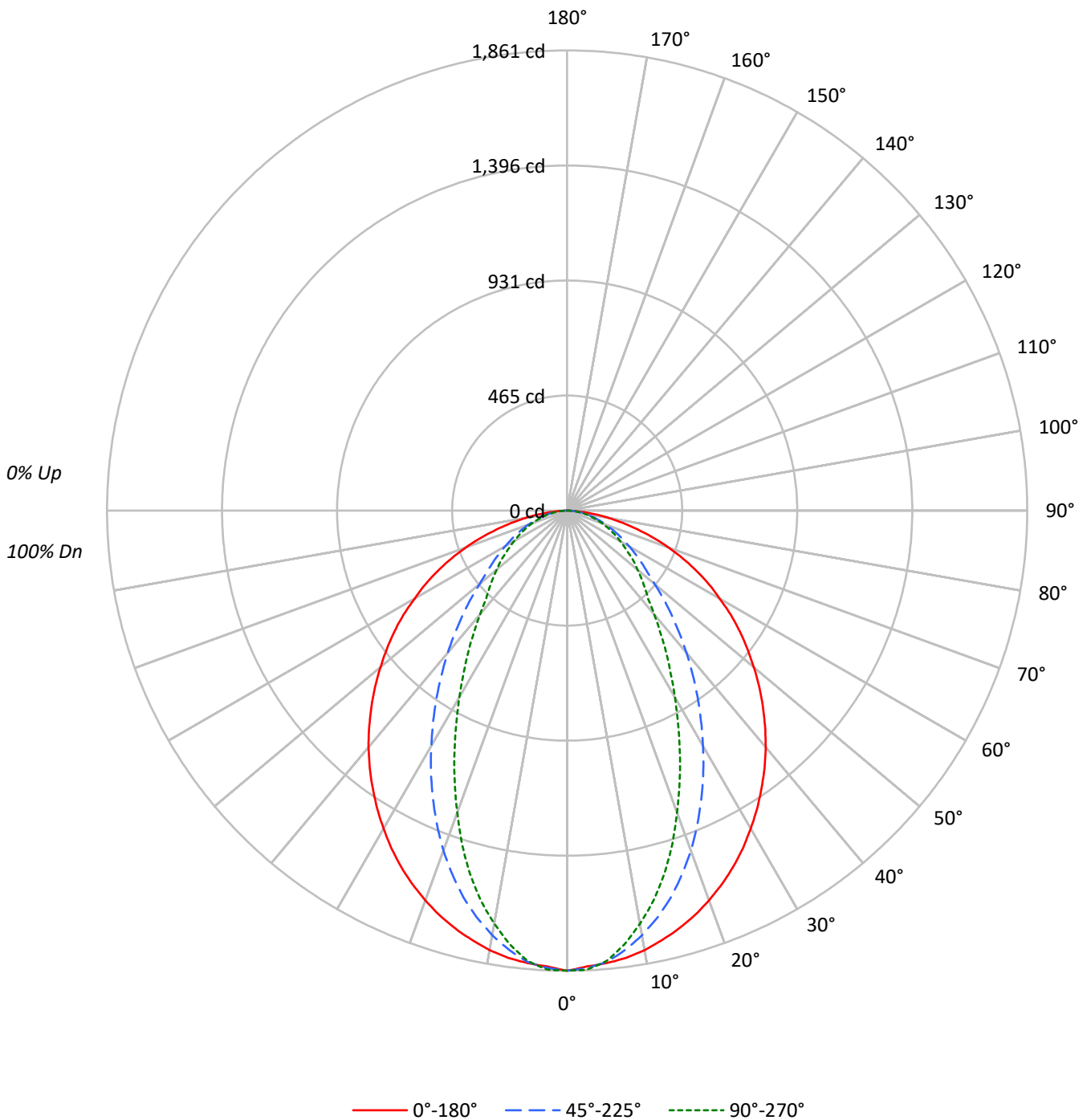
Lumens per Lamp: N/A
Luminaire Lumens: 3263.5 lumens
Efficiency: N/A
Efficacy: 89.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22435	22435	22435
5°	22233	22184	22133
10°	22099	21350	20770
15°	21837	20220	18970
20°	21517	18768	16678
25°	21143	17089	14348
30°	20673	15287	12128
35°	20177	13520	10242
40°	19670	11807	8609
45°	19079	10181	7594
50°	18483	8667	6970
55°	17934	7723	6436
60°	17183	6981	6007
65°	16478	6393	5637
70°	15355	5887	5298
75°	13746	5445	4994
80°	11789	5027	4638
85°	8272	4620	4427

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 19079 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.5	5.3
10°-20°	456.4	14.0
20°-30°	601.2	18.4
30°-40°	610.2	18.7
40°-50°	530.4	16.3
50°-60°	415.5	12.7
60°-70°	282.3	8.7
70°-80°	153.0	4.7
80°-90°	42.1	1.3
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°	1230.0	37.7
0°-40°	1840.2	56.4
0°-60°	2786.1	85.4
0°-90°	3263.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3263.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1861	1861	1861	1861	1861	
5°	1837	1859	1833	1816	1829	174
15°	1750	1724	1620	1541	1520	493
25°	1589	1493	1285	1125	1079	732
35°	1371	1208	919	743	696	858
45°	1119	898	597	461	445	864
55°	853	593	367	313	306	762
65°	578	320	224	200	198	570
75°	295	148	117	109	107	315
85°	60	36	33	31	32	75
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1860.8	1860.8	1860.8	1860.8	1860.8
2.5°	1845.5	1869.2	1851.1	1852.4	1858.0
5°	1837.1	1859.4	1833.0	1816.3	1828.8
7.5°	1824.6	1841.3	1792.6	1766.2	1770.3
10°	1805.1	1810.7	1743.9	1702.1	1696.6
12.5°	1778.7	1768.9	1685.4	1624.2	1614.5
15°	1749.5	1724.4	1620.0	1540.7	1519.8
17.5°	1716.1	1674.3	1543.5	1446.1	1414.0
20°	1677.1	1618.6	1462.8	1338.9	1299.9
22.5°	1635.3	1560.2	1375.1	1228.9	1188.6
25°	1589.4	1493.4	1284.6	1124.6	1078.6
27.5°	1539.3	1426.6	1192.7	1021.6	970.1
30°	1485.0	1357.0	1098.1	921.4	871.2
32.5°	1429.4	1283.2	1007.6	828.1	779.4
35°	1370.9	1208.1	918.6	743.2	695.9
37.5°	1311.1	1131.5	832.3	662.5	617.9
40°	1249.8	1053.6	750.2	587.3	547.0
42.5°	1184.4	975.6	670.8	516.3	485.7
45°	1119.0	897.7	597.1	460.7	445.4
47.5°	1053.6	818.4	527.5	421.7	407.8
50°	985.4	741.8	462.1	385.5	371.6
52.5°	918.6	666.7	407.8	350.7	341.0
55°	853.2	592.9	367.4	313.1	306.2
57.5°	785.0	520.5	327.1	283.9	275.6
60°	712.6	450.9	289.5	253.3	249.1
62.5°	647.2	385.5	256.1	226.9	222.7
65°	577.6	320.1	224.1	200.4	197.6
67.5°	506.6	265.8	194.8	175.4	174.0
70°	435.6	224.1	167.0	151.7	150.3
72.5°	366.0	185.1	140.6	130.8	128.0
75°	295.1	147.5	116.9	108.6	107.2
77.5°	231.0	114.1	93.2	87.7	86.3
80°	169.8	84.9	72.4	68.2	66.8
82.5°	111.3	58.5	51.5	48.7	48.7
85°	59.8	36.2	33.4	30.6	32.0
87.5°	20.9	15.3	15.3	13.9	15.3
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	21.37	22.86	21.73	23.17	23.49	16.51	18.01	16.88	18.32	18.63
	3H	23.25	24.59	23.63	24.92	25.28	18.14	19.48	18.52	19.81	20.17
	4H	24.01	25.26	24.41	25.61	25.99	18.78	20.03	19.18	20.38	20.76
	6H	24.57	25.73	24.99	26.10	26.49	19.27	20.43	19.68	20.80	21.19
	8H	24.75	25.85	25.17	26.24	26.64	19.44	20.54	19.87	20.93	21.33
	12H	24.84	25.90	25.27	26.28	26.71	19.56	20.62	19.99	21.00	21.43
4H	2H	21.41	22.67	21.81	23.02	23.40	17.24	18.50	17.64	18.85	19.23
	3H	23.43	24.47	23.84	24.87	25.27	19.06	20.11	19.47	20.51	20.91
	4H	24.25	25.19	24.68	25.60	26.04	19.81	20.75	20.24	21.17	21.61
	6H	24.93	25.75	25.39	26.19	26.65	20.42	21.24	20.88	21.68	22.14
	8H	25.16	25.92	25.62	26.37	26.83	20.63	21.40	21.10	21.84	22.31
	12H	25.31	25.99	25.79	26.47	26.94	20.80	21.48	21.28	21.96	22.43
8H	4H	24.27	25.03	24.73	25.48	25.95	20.19	20.96	20.66	21.40	21.87
	6H	25.00	25.63	25.50	26.12	26.60	20.92	21.55	21.42	22.04	22.52
	8H	25.27	25.83	25.78	26.34	26.83	21.21	21.78	21.72	22.29	22.77
	12H	25.48	25.98	25.99	26.47	27.03	21.45	21.95	21.96	22.45	23.01
12H	4H	24.26	24.94	24.74	25.42	25.89	20.25	20.93	20.73	21.41	21.88
	6H	24.98	25.55	25.50	26.06	26.55	21.00	21.57	21.52	22.08	22.57
	8H	25.29	25.79	25.80	26.28	26.85	21.35	21.85	21.86	22.34	22.91