

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: P1055715

Luminaire Tested: S123R3DR-H1165D835-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055715
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-H1165D835-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

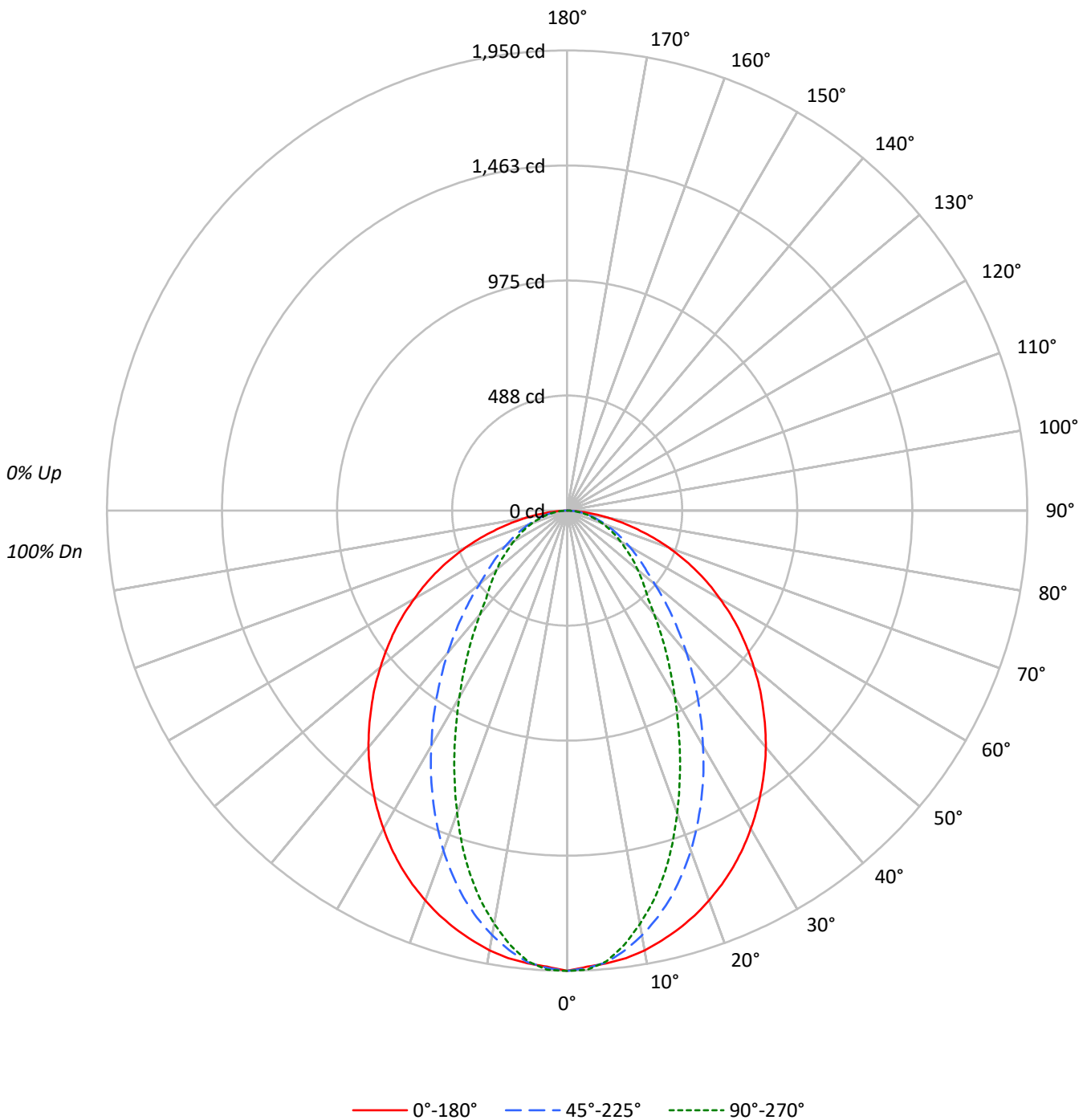
Lumens per Lamp: N/A
Luminaire Lumens: 3420.8 lumens
Efficiency: N/A
Efficacy: 93.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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	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	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	23516	23516	23516
5°	23306	23252	23200
10°	23165	22379	21772
15°	22889	21195	19885
20°	22555	19672	17482
25°	22162	17912	15040
30°	21670	16025	12715
35°	21150	14172	10735
40°	20619	12375	9023
45°	19998	10672	7959
50°	19374	9084	7306
55°	18798	8095	6747
60°	18010	7316	6296
65°	17271	6701	5911
70°	16095	6172	5555
75°	14408	5706	5231
80°	12359	5270	4860
85°	8673	4842	4648

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 19998 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.8	5.3
10°-20°	478.4	14.0
20°-30°	630.2	18.4
30°-40°	639.6	18.7
40°-50°	555.9	16.3
50°-60°	435.6	12.7
60°-70°	295.9	8.7
70°-80°	160.4	4.7
80°-90°	44.1	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°	1289.3	37.7
0°-40°	1928.9	56.4
0°-60°	2920.4	85.4
0°-90°	3420.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3420.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1950	1950	1950	1950	1950	
5°	1926	1949	1921	1904	1917	183
15°	1834	1808	1698	1615	1593	517
25°	1666	1565	1346	1179	1131	767
35°	1437	1266	963	779	729	899
45°	1173	941	626	483	467	905
55°	894	622	385	328	321	798
65°	605	336	235	210	207	598
75°	309	155	122	114	112	330
85°	63	38	35	32	34	79
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1950.5	1950.5	1950.5	1950.5	1950.5
2.5°	1934.5	1959.3	1940.3	1941.8	1947.6
5°	1925.7	1949.1	1921.3	1903.8	1917.0
7.5°	1912.6	1930.1	1879.0	1851.3	1855.7
10°	1892.2	1898.0	1828.0	1784.2	1778.4
12.5°	1864.5	1854.2	1766.7	1702.5	1692.3
15°	1833.8	1807.6	1698.1	1615.0	1593.1
17.5°	1798.8	1755.0	1617.9	1515.8	1482.2
20°	1758.0	1696.7	1533.3	1403.4	1362.6
22.5°	1714.2	1635.4	1441.4	1288.2	1245.9
25°	1666.0	1565.4	1346.5	1178.8	1130.6
27.5°	1613.5	1495.4	1250.3	1070.8	1016.8
30°	1556.6	1422.4	1151.1	965.8	913.3
32.5°	1498.3	1345.1	1056.2	868.0	817.0
35°	1437.0	1266.3	962.9	779.0	729.4
37.5°	1374.3	1186.1	872.4	694.4	647.7
40°	1310.1	1104.4	786.3	615.6	573.3
42.5°	1241.5	1022.7	703.2	541.2	509.1
45°	1172.9	941.0	625.9	482.9	466.8
47.5°	1104.4	857.8	552.9	442.0	427.5
50°	1032.9	777.6	484.3	404.1	389.5
52.5°	962.9	698.8	427.5	367.6	357.4
55°	894.3	621.5	385.1	328.2	321.0
57.5°	822.8	545.6	342.8	297.6	288.9
60°	746.9	472.7	303.4	265.5	261.1
62.5°	678.4	404.1	268.4	237.8	233.4
65°	605.4	335.5	234.9	210.1	207.2
67.5°	531.0	278.6	204.2	183.8	182.4
70°	456.6	234.9	175.1	159.0	157.6
72.5°	383.7	194.0	147.3	137.1	134.2
75°	309.3	154.6	122.5	113.8	112.3
77.5°	242.2	119.6	97.7	91.9	90.5
80°	178.0	89.0	75.9	71.5	70.0
82.5°	116.7	61.3	54.0	51.1	51.1
85°	62.7	37.9	35.0	32.1	33.6
87.5°	21.9	16.0	16.0	14.6	16.0
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	21.53	23.02	21.89	23.33	23.65	16.68	18.17	17.04	18.48	18.80
	3H	23.42	24.75	23.79	25.08	25.44	18.31	19.64	18.68	19.97	20.33
	4H	24.17	25.43	24.57	25.78	26.16	18.94	20.20	19.34	20.55	20.93
	6H	24.74	25.90	25.15	26.26	26.66	19.43	20.59	19.84	20.96	21.35
	8H	24.91	26.01	25.34	26.40	26.80	19.60	20.71	20.03	21.10	21.50
	12H	25.01	26.06	25.44	26.45	26.87	19.73	20.78	20.16	21.17	21.60
4H	2H	21.58	22.83	21.98	23.18	23.56	17.41	18.66	17.81	19.01	19.39
	3H	23.59	24.64	24.00	25.04	25.44	19.23	20.27	19.64	20.67	21.07
	4H	24.41	25.35	24.84	25.76	26.20	19.97	20.91	20.41	21.33	21.77
	6H	25.09	25.91	25.55	26.35	26.81	20.58	21.40	21.04	21.84	22.30
	8H	25.32	26.09	25.79	26.53	27.00	20.80	21.56	21.26	22.01	22.47
	12H	25.47	26.16	25.96	26.64	27.11	20.97	21.65	21.45	22.13	22.60
8H	4H	24.43	25.20	24.90	25.64	26.11	20.36	21.12	20.82	21.56	22.03
	6H	25.16	25.79	25.66	26.29	26.76	21.09	21.72	21.58	22.21	22.69
	8H	25.43	26.00	25.95	26.51	27.00	21.37	21.94	21.89	22.45	22.94
	12H	25.64	26.14	26.15	26.63	27.20	21.62	22.12	22.13	22.61	23.18
12H	4H	24.42	25.10	24.90	25.58	26.05	20.41	21.09	20.89	21.57	22.04
	6H	25.15	25.71	25.66	26.22	26.71	21.17	21.73	21.68	22.24	22.73
	8H	25.45	25.95	25.96	26.44	27.01	21.52	22.02	22.03	22.51	23.07