

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: P1055556

Luminaire Tested: S123R3DR-S1000D840-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055556
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-S1000D840-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

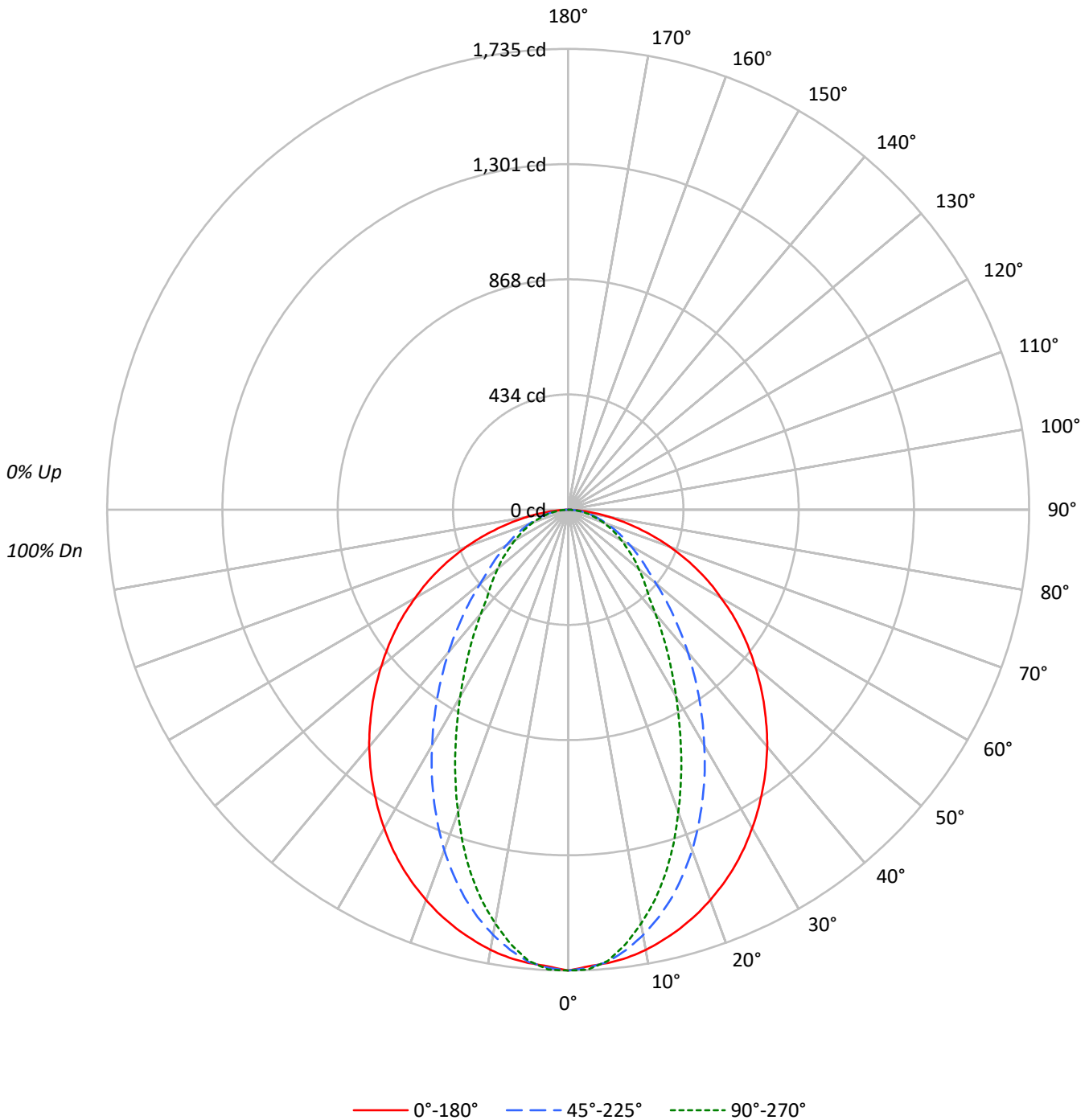
Lumens per Lamp: N/A
Luminaire Lumens: 3043.0 lumens
Efficiency: N/A
Efficacy: 87.7 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	20919	20919	20919
5°	20732	20684	20637
10°	20606	19907	19366
15°	20361	18855	17688
20°	20064	17499	15551
25°	19715	15934	13379
30°	19277	14254	11310
35°	18814	12606	9551
40°	18342	11009	8027
45°	17790	9492	7081
50°	17233	8082	6499
55°	16721	7201	6001
60°	16021	6508	5601
65°	15365	5959	5258
70°	14319	5489	4942
75°	12815	5077	4654
80°	10991	4687	4325
85°	7719	4302	4122

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 17790 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.8	5.3
10°-20°	425.5	14.0
20°-30°	560.6	18.4
30°-40°	568.9	18.7
40°-50°	494.5	16.3
50°-60°	387.5	12.7
60°-70°	263.2	8.7
70°-80°	142.7	4.7
80°-90°	39.3	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°	1146.9	37.7
0°-40°	1715.9	56.4
0°-60°	2597.9	85.4
0°-90°	3043.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3043.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1735	1735	1735	1735	1735	
5°	1713	1734	1709	1694	1705	163
15°	1631	1608	1511	1437	1417	460
25°	1482	1392	1198	1049	1006	682
35°	1278	1126	856	693	649	800
45°	1043	837	557	430	415	805
55°	796	553	343	292	286	710
65°	539	298	209	187	184	532
75°	275	138	109	101	100	294
85°	56	34	31	29	30	70
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1735.1	1735.1	1735.1	1735.1	1735.1
2.5°	1720.8	1742.9	1726.0	1727.3	1732.5
5°	1713.0	1733.8	1709.1	1693.6	1705.2
7.5°	1701.3	1716.9	1671.5	1646.8	1650.7
10°	1683.2	1688.4	1626.1	1587.1	1581.9
12.5°	1658.5	1649.4	1571.6	1514.5	1505.4
15°	1631.3	1607.9	1510.6	1436.6	1417.1
17.5°	1600.1	1561.2	1439.2	1348.4	1318.5
20°	1563.8	1509.3	1363.9	1248.4	1212.1
22.5°	1524.8	1454.8	1282.2	1145.9	1108.3
25°	1482.0	1392.5	1197.8	1048.6	1005.7
27.5°	1435.3	1330.2	1112.2	952.5	904.5
30°	1384.7	1265.3	1023.9	859.1	812.4
32.5°	1332.8	1196.5	939.6	772.2	726.7
35°	1278.3	1126.4	856.5	693.0	648.9
37.5°	1222.5	1055.1	776.0	617.7	576.2
40°	1165.4	982.4	699.5	547.6	510.0
42.5°	1104.4	909.7	625.5	481.5	452.9
45°	1043.4	837.0	556.7	429.6	415.3
47.5°	982.4	763.1	491.8	393.2	380.2
50°	918.8	691.7	430.9	359.5	346.5
52.5°	856.5	621.6	380.2	327.0	317.9
55°	795.5	552.8	342.6	292.0	285.5
57.5°	731.9	485.4	305.0	264.7	257.0
60°	664.4	420.5	269.9	236.2	232.3
62.5°	603.4	359.5	238.8	211.5	207.6
65°	538.6	298.5	208.9	186.9	184.3
67.5°	472.4	247.9	181.7	163.5	162.2
70°	406.2	208.9	155.7	141.5	140.2
72.5°	341.3	172.6	131.1	122.0	119.4
75°	275.1	137.6	109.0	101.2	99.9
77.5°	215.4	106.4	86.9	81.8	80.5
80°	158.3	79.2	67.5	63.6	62.3
82.5°	103.8	54.5	48.0	45.4	45.4
85°	55.8	33.7	31.1	28.6	29.8
87.5°	19.5	14.3	14.3	13.0	14.3
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	21.12	22.61	21.49	22.93	23.24	16.27	17.76	16.64	18.08	18.39
	3H	23.01	24.35	23.39	24.68	25.04	17.90	19.24	18.28	19.57	19.93
	4H	23.77	25.02	24.17	25.37	25.75	18.54	19.79	18.94	20.14	20.52
	6H	24.33	25.49	24.74	25.86	26.25	19.03	20.19	19.44	20.55	20.94
	8H	24.50	25.61	24.93	26.00	26.40	19.20	20.30	19.62	20.69	21.09
	12H	24.60	25.66	25.03	26.04	26.47	19.32	20.38	19.75	20.76	21.19
4H	2H	21.17	22.42	21.57	22.77	23.15	17.00	18.25	17.40	18.60	18.98
	3H	23.19	24.23	23.60	24.63	25.03	18.82	19.86	19.23	20.26	20.67
	4H	24.00	24.94	24.44	25.36	25.80	19.57	20.51	20.00	20.92	21.36
	6H	24.69	25.50	25.14	25.95	26.41	20.18	20.99	20.63	21.44	21.90
	8H	24.92	25.68	25.38	26.12	26.59	20.39	21.15	20.85	21.60	22.07
	12H	25.07	25.75	25.55	26.23	26.70	20.56	21.24	21.04	21.72	22.19
8H	4H	24.03	24.79	24.49	25.24	25.70	19.95	20.71	20.41	21.16	21.63
	6H	24.76	25.39	25.25	25.88	26.36	20.68	21.31	21.18	21.80	22.28
	8H	25.03	25.59	25.54	26.10	26.59	20.97	21.53	21.48	22.04	22.53
	12H	25.23	25.73	25.74	26.23	26.79	21.21	21.71	21.72	22.20	22.77
12H	4H	24.01	24.69	24.50	25.17	25.64	20.00	20.69	20.49	21.17	21.64
	6H	24.74	25.31	25.25	25.82	26.31	20.76	21.33	21.28	21.84	22.33
	8H	25.05	25.55	25.56	26.04	26.60	21.11	21.61	21.62	22.10	22.67