

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: P1439807

Luminaire Tested: S123DR-S1005D840-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439807
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G3-2603-719-3)
Test Lab: INNOVATION CENTER
Issue Date: 4/2/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DR-S1005D840-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

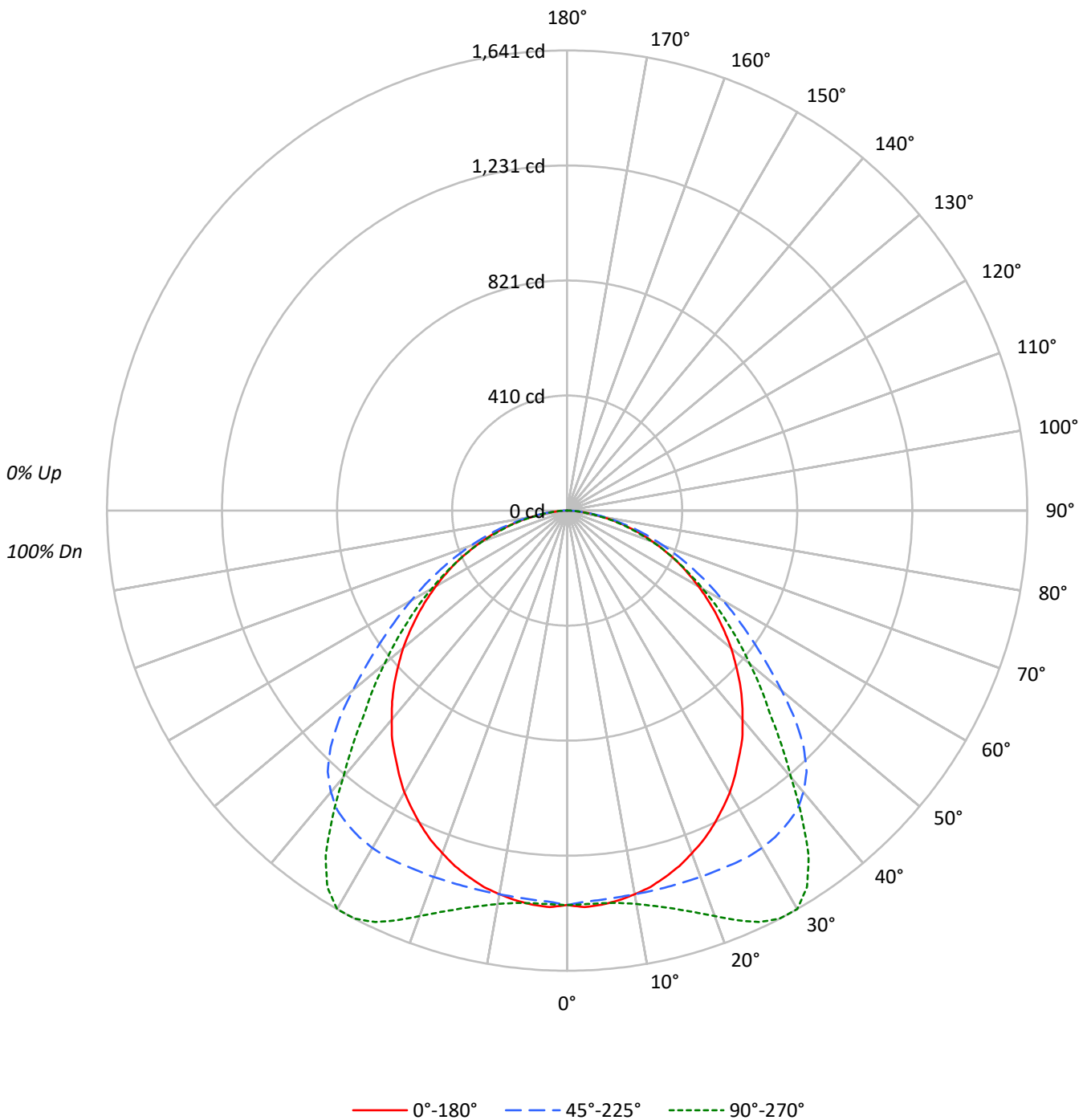
Lumens per Lamp: N/A
Luminaire Lumens: 4254.2 lumens
Efficiency: N/A
Efficacy: 101.5 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 41.9
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	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16959	16959	16959
5°	17075	16865	17005
10°	17006	17006	17433
15°	16884	17338	18337
20°	16684	17842	19744
25°	16448	18517	21536
30°	16159	19338	22841
35°	15735	20102	22093
40°	15315	20627	19550
45°	14856	20336	17410
50°	14322	18715	15934
55°	13696	16938	14644
60°	13047	15502	13467
65°	12407	14193	12450
70°	11485	12870	11280
75°	10365	11450	10094
80°	8686	9595	8283
85°	6640	7041	6239

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 20336 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.9	3.1
10°-20°	398.0	9.4
20°-30°	652.2	15.3
30°-40°	825.1	19.4
40°-50°	806.1	18.9
50°-60°	662.2	15.6
60°-70°	467.1	11.0
70°-80°	249.0	5.9
80°-90°	60.7	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°	1184.1	27.8
0°-40°	2009.2	47.2
0°-60°	3477.5	81.7
0°-90°	4254.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4254.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1407	1407	1407	1407	1407	
5°	1411	1405	1394	1408	1405	134
15°	1353	1360	1389	1452	1469	382
25°	1236	1273	1392	1561	1619	569
35°	1069	1143	1366	1524	1501	669
45°	871	970	1193	1076	1021	671
55°	652	749	806	724	697	583
65°	435	498	498	454	436	429
75°	222	250	246	222	217	236
85°	48	52	51	46	45	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1406.6	1406.6	1406.6	1406.6	1406.6
2.5°	1415.3	1410.9	1396.4	1409.5	1405.1
5°	1410.9	1405.1	1393.5	1408.0	1405.1
7.5°	1402.2	1399.3	1390.6	1412.4	1410.9
10°	1389.1	1387.6	1389.1	1421.1	1424.0
12.5°	1374.6	1376.0	1389.1	1434.2	1444.4
15°	1352.7	1360.0	1389.1	1451.6	1469.1
17.5°	1329.5	1341.1	1389.1	1474.9	1501.1
20°	1300.4	1320.7	1390.6	1499.6	1538.9
22.5°	1271.3	1296.0	1390.6	1533.1	1581.1
25°	1236.4	1272.7	1392.0	1560.7	1618.9
27.5°	1198.6	1242.2	1393.5	1582.6	1640.7
30°	1160.7	1213.1	1389.1	1591.3	1640.7
32.5°	1115.6	1179.6	1380.4	1576.7	1591.3
35°	1069.1	1143.3	1365.8	1524.4	1501.1
37.5°	1025.5	1104.0	1346.9	1428.4	1373.1
40°	973.1	1061.8	1310.6	1306.2	1242.2
42.5°	923.6	1016.7	1264.0	1182.6	1130.2
45°	871.3	970.2	1192.7	1076.4	1021.1
47.5°	816.0	919.3	1102.6	976.0	936.7
50°	763.6	866.9	997.8	884.4	849.5
52.5°	706.9	811.6	897.5	802.9	772.4
55°	651.6	749.1	805.8	724.4	696.7
57.5°	596.4	688.0	721.5	650.2	628.4
60°	541.1	624.0	642.9	581.8	558.5
62.5°	487.3	564.4	570.2	516.4	496.0
65°	434.9	497.5	497.5	453.8	436.4
67.5°	379.6	433.5	430.5	389.8	379.6
70°	325.8	370.9	365.1	331.6	320.0
72.5°	274.9	308.4	304.0	277.8	264.7
75°	222.5	250.2	245.8	222.5	216.7
77.5°	173.1	192.0	187.6	171.6	167.3
80°	125.1	139.6	138.2	126.5	119.3
82.5°	84.4	91.6	90.2	82.9	78.5
85°	48.0	52.4	50.9	46.5	45.1
87.5°	18.9	21.8	23.3	21.8	20.4
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	21.47	23.08	21.84	23.39	23.71	21.20	22.81	21.57	23.12	23.43
	3H	23.04	24.49	23.42	24.82	25.18	22.72	24.16	23.09	24.49	24.85
	4H	23.59	24.95	23.99	25.30	25.68	23.25	24.61	23.65	24.96	25.33
	6H	23.96	25.22	24.37	25.58	25.97	23.61	24.87	24.02	25.23	25.62
	8H	24.06	25.26	24.48	25.65	26.05	23.70	24.90	24.13	25.29	25.69
	12H	24.11	25.26	24.54	25.65	26.07	23.75	24.90	24.18	25.29	25.71
4H	2H	22.11	23.47	22.51	23.82	24.20	21.90	23.26	22.30	23.61	23.98
	3H	23.92	25.05	24.33	25.45	25.85	23.61	24.75	24.02	25.15	25.55
	4H	24.61	25.63	25.04	26.05	26.48	24.25	25.28	24.68	25.69	26.13
	6H	25.09	25.98	25.54	26.42	26.88	24.71	25.60	25.17	26.05	26.50
	8H	25.22	26.06	25.68	26.50	26.97	24.84	25.67	25.30	26.12	26.58
	12H	25.31	26.06	25.79	26.53	27.00	24.92	25.67	25.40	26.14	26.61
8H	4H	24.87	25.71	25.33	26.15	26.62	24.56	25.39	25.02	25.84	26.30
	6H	25.46	26.16	25.96	26.64	27.12	25.12	25.81	25.61	26.30	26.78
	8H	25.66	26.28	26.17	26.79	27.27	25.30	25.92	25.81	26.43	26.91
	12H	25.80	26.35	26.30	26.84	27.40	25.43	25.98	25.93	26.47	27.03
12H	4H	24.89	25.64	25.37	26.11	26.58	24.59	25.33	25.07	25.81	26.28
	6H	25.49	26.12	26.01	26.62	27.11	25.16	25.79	25.67	26.29	26.78
	8H	25.74	26.29	26.25	26.78	27.34	25.39	25.94	25.90	26.43	26.99