

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: P1439762

Luminaire Tested: S123DR-H1005D840-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439762  
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-H1005D840-X4F0-XX-UDD-FLB-W  
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

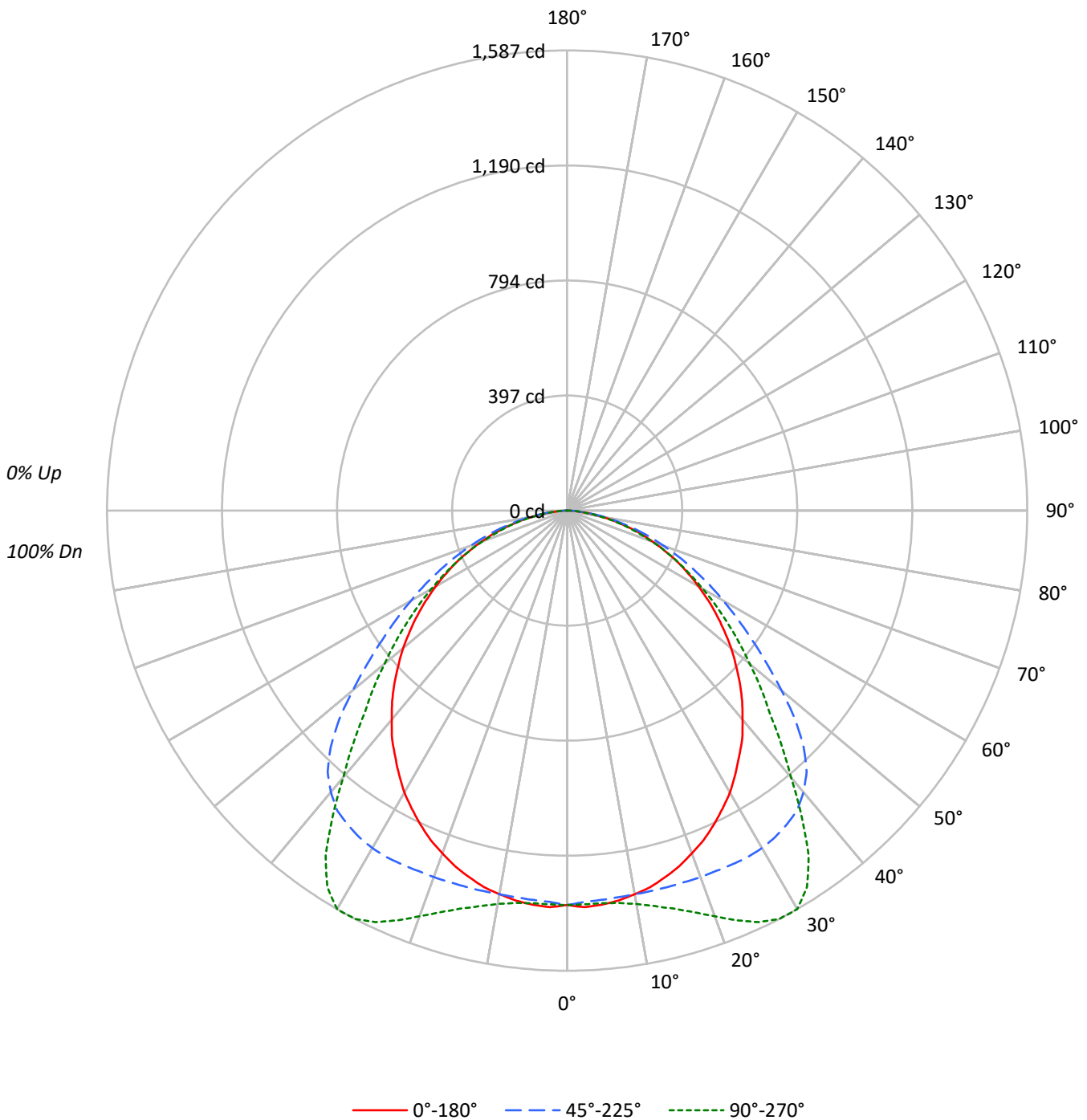
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4115.2 lumens  
Efficiency: N/A  
Efficacy: 112.4 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): 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	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°	16404	16404	16404
5°	16517	16313	16450
10°	16450	16450	16864
15°	16332	16772	17738
20°	16139	17258	19099
25°	15910	17912	20832
30°	15631	18706	22095
35°	15222	19446	21372
40°	14815	19952	18911
45°	14370	19673	16841
50°	13855	18104	15412
55°	13251	16385	14167
60°	12621	14996	13028
65°	12002	13728	12042
70°	11111	12451	10910
75°	10029	11077	9764
80°	8401	9283	8012
85°	6419	6806	6031

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 19673 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	129.6	3.1
10°-20°	385.0	9.4
20°-30°	630.9	15.3
30°-40°	798.1	19.4
40°-50°	779.7	18.9
50°-60°	640.6	15.6
60°-70°	451.8	11.0
70°-80°	240.8	5.9
80°-90°	58.7	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°	1145.4	27.8
0°-40°	1943.6	47.2
0°-60°	3363.9	81.7
0°-90°	4115.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4115.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1361	1361	1361	1361	1361	
5°	1365	1359	1348	1362	1359	130
15°	1308	1316	1344	1404	1421	369
25°	1196	1231	1346	1510	1566	551
35°	1034	1106	1321	1475	1452	648
45°	843	938	1154	1041	988	649
55°	630	725	780	701	674	564
65°	421	481	481	439	422	415
75°	215	242	238	215	210	228
85°	46	51	49	45	44	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1360.6	1360.6	1360.6	1360.6	1360.6
2.5°	1369.0	1364.8	1350.8	1363.4	1359.2
5°	1364.8	1359.2	1347.9	1362.0	1359.2
7.5°	1356.4	1353.6	1345.1	1366.2	1364.8
10°	1343.7	1342.3	1343.7	1374.7	1377.5
12.5°	1329.6	1331.1	1343.7	1387.3	1397.2
15°	1308.5	1315.6	1343.7	1404.2	1421.1
17.5°	1286.0	1297.3	1343.7	1426.7	1452.1
20°	1257.9	1277.6	1345.1	1450.7	1488.6
22.5°	1229.7	1253.7	1345.1	1483.0	1529.4
25°	1196.0	1231.2	1346.5	1509.7	1566.0
27.5°	1159.4	1201.6	1347.9	1530.9	1587.1
30°	1122.8	1173.5	1343.7	1539.3	1587.1
32.5°	1079.2	1141.1	1335.3	1525.2	1539.3
35°	1034.2	1105.9	1321.2	1474.6	1452.1
37.5°	992.0	1067.9	1302.9	1381.7	1328.2
40°	941.3	1027.1	1267.7	1263.5	1201.6
42.5°	893.5	983.5	1222.7	1143.9	1093.3
45°	842.8	938.5	1153.8	1041.2	987.7
47.5°	789.3	889.2	1066.5	944.1	906.1
50°	738.7	838.6	965.2	855.5	821.7
52.5°	683.8	785.1	868.1	776.7	747.1
55°	630.4	724.6	779.5	700.7	674.0
57.5°	576.9	665.5	697.9	628.9	607.8
60°	523.4	603.6	621.9	562.8	540.3
62.5°	471.4	545.9	551.6	499.5	479.8
65°	420.7	481.2	481.2	439.0	422.1
67.5°	367.2	419.3	416.5	377.1	367.2
70°	315.2	358.8	353.2	320.8	309.5
72.5°	265.9	298.3	294.1	268.7	256.1
75°	215.3	242.0	237.8	215.3	209.6
77.5°	167.4	185.7	181.5	166.0	161.8
80°	121.0	135.1	133.7	122.4	115.4
82.5°	81.6	88.6	87.2	80.2	76.0
85°	46.4	50.7	49.2	45.0	43.6
87.5°	18.3	21.1	22.5	21.1	19.7
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	21.36	22.96	21.72	23.28	23.59	21.08	22.69	21.45	23.00	23.32
	3H	22.93	24.37	23.30	24.70	25.06	22.60	24.05	22.98	24.37	24.73
	4H	23.48	24.84	23.88	25.19	25.56	23.13	24.49	23.53	24.84	25.22
	6H	23.84	25.10	24.25	25.47	25.86	23.49	24.75	23.90	25.12	25.51
	8H	23.94	25.14	24.37	25.53	25.93	23.59	24.79	24.01	25.18	25.58
	12H	24.00	25.15	24.43	25.53	25.96	23.64	24.79	24.07	25.17	25.60
4H	2H	22.00	23.36	22.39	23.70	24.08	21.78	23.14	22.18	23.49	23.87
	3H	23.80	24.94	24.21	25.34	25.74	23.50	24.63	23.91	25.03	25.43
	4H	24.49	25.52	24.92	25.93	26.37	24.14	25.16	24.57	25.57	26.01
	6H	24.97	25.87	25.43	26.31	26.76	24.60	25.49	25.05	25.93	26.39
	8H	25.11	25.94	25.57	26.38	26.85	24.72	25.56	25.18	26.00	26.47
	12H	25.19	25.94	25.67	26.42	26.89	24.80	25.55	25.28	26.03	26.50
8H	4H	24.76	25.59	25.22	26.03	26.50	24.44	25.28	24.90	25.72	26.19
	6H	25.35	26.04	25.84	26.53	27.00	25.00	25.70	25.50	26.19	26.66
	8H	25.54	26.16	26.05	26.67	27.16	25.18	25.80	25.69	26.31	26.80
	12H	25.68	26.23	26.19	26.72	27.28	25.31	25.86	25.82	26.35	26.91
12H	4H	24.77	25.52	25.25	26.00	26.47	24.47	25.22	24.95	25.70	26.16
	6H	25.38	26.00	25.89	26.51	27.00	25.05	25.67	25.56	26.18	26.66
	8H	25.62	26.17	26.13	26.66	27.23	25.28	25.83	25.78	26.32	26.88