

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: P242439

Luminaire Tested: S123DRP-S1000D840-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242439  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-11)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DRP-S1000D840-X4F0-XX-UDD-F-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

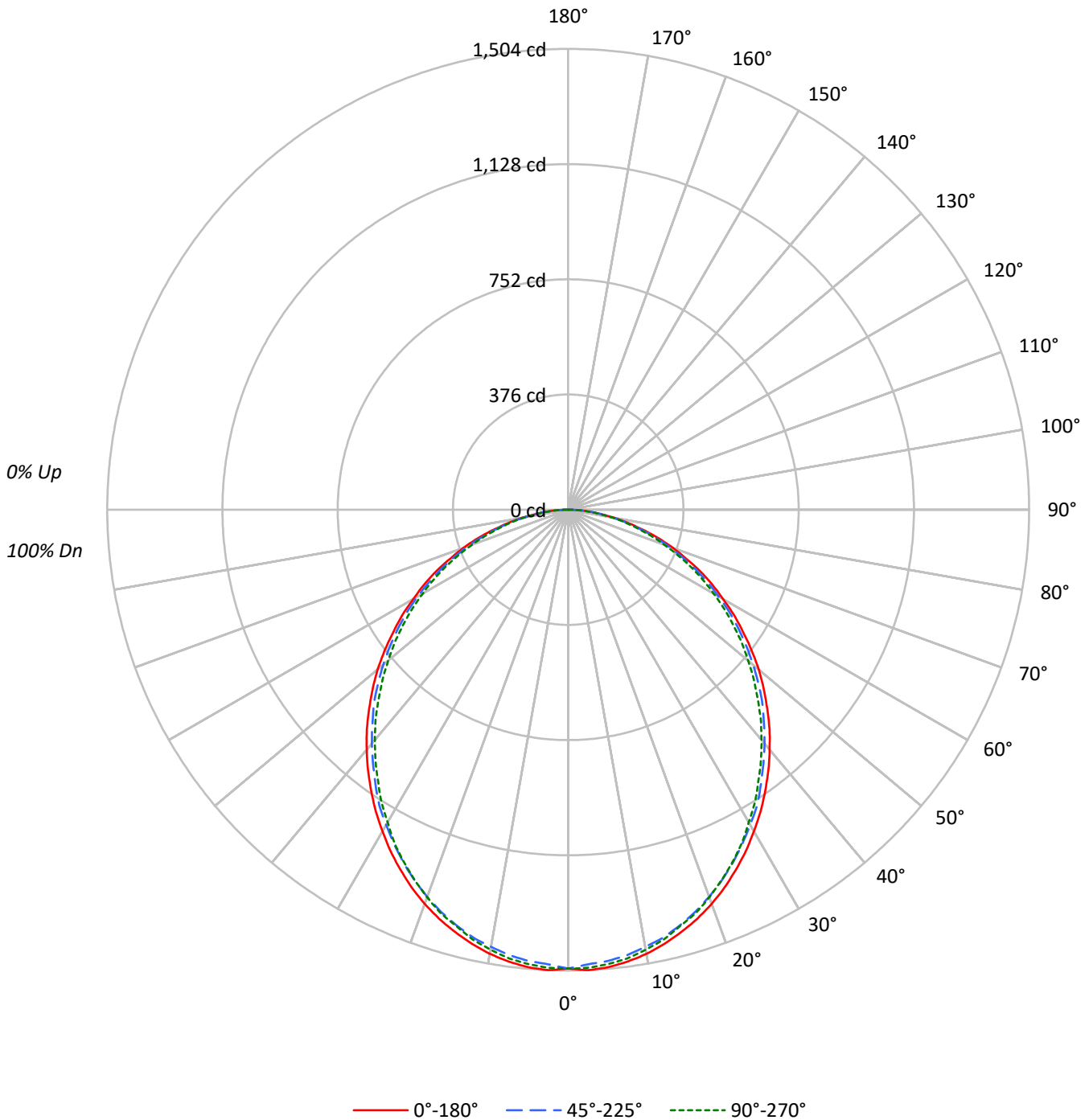
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3897.9 lumens  
Efficiency: N/A  
Efficacy: 112.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.3  
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 34.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	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	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	84													84															
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	70													70															
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	59													59															
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51													51															
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	57	51	46	44													44															
6	71	57	49	42	69	56	48	42	55	47	42	53	46	41	51	46	41	39													39															
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34													34															
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31													31															
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28													28															
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25													25															

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	18154	18154	18154
5°	18239	17988	18114
10°	18118	17832	17943
15°	17906	17631	17664
20°	17659	17343	17360
25°	17328	17000	16965
30°	16961	16619	16493
35°	16579	16216	16008
40°	16179	15773	15527
45°	15740	15364	14989
50°	15299	14861	14450
55°	14723	14343	13907
60°	14143	13736	13299
65°	13629	13076	12669
70°	12872	12323	11777
75°	11760	11338	10856
80°	10610	10156	10066
85°	9318	8956	8595

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 15740 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	141.2	3.6
10°-20°	398.7	10.2
20°-30°	588.8	15.1
30°-40°	687.7	17.6
40°-50°	691.3	17.7
50°-60°	607.3	15.6
60°-70°	452.3	11.6
70°-80°	257.4	6.6
80°-90°	73.2	1.9
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°	1128.7	29.0
0°-40°	1816.4	46.6
0°-60°	3115.1	79.9
0°-90°	3897.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3897.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1498	1498	1498	1498	1498	
5°	1499	1493	1478	1491	1489	142
15°	1427	1422	1405	1415	1408	402
25°	1296	1288	1271	1272	1268	597
35°	1120	1113	1096	1088	1082	701
45°	918	913	896	881	874	709
55°	697	695	679	664	658	624
65°	475	469	456	446	442	469
75°	251	246	242	236	232	268
85°	67	64	64	62	62	76
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1497.7	1497.7	1497.7	1497.7	1497.7
2.5°	1504.2	1499.0	1484.9	1497.7	1496.5
5°	1499.0	1492.6	1478.4	1491.3	1488.7
7.5°	1487.4	1481.0	1466.8	1478.4	1477.1
10°	1472.0	1465.5	1448.8	1460.4	1457.8
12.5°	1451.4	1446.2	1430.8	1438.5	1437.2
15°	1426.9	1421.8	1405.0	1415.3	1407.6
17.5°	1399.9	1393.4	1376.7	1384.4	1381.8
20°	1369.0	1361.2	1344.5	1349.6	1345.8
22.5°	1334.2	1326.5	1309.7	1313.6	1308.4
25°	1295.6	1287.8	1271.1	1272.4	1268.5
27.5°	1255.6	1247.9	1229.9	1231.2	1227.3
30°	1211.8	1205.4	1187.4	1187.4	1178.4
32.5°	1168.1	1159.0	1146.2	1137.1	1133.3
35°	1120.4	1112.7	1095.9	1088.2	1081.8
37.5°	1072.8	1062.5	1045.7	1036.7	1032.8
40°	1022.5	1014.8	996.8	986.5	981.3
42.5°	972.3	963.3	945.3	935.0	929.8
45°	918.2	913.1	896.3	880.9	874.4
47.5°	865.4	857.7	842.2	826.8	821.6
50°	811.3	804.9	788.1	774.0	766.3
52.5°	754.7	750.8	732.8	721.2	713.5
55°	696.7	695.4	678.7	664.5	658.1
57.5°	642.6	637.5	624.6	611.7	604.0
60°	583.4	582.1	566.6	555.1	548.6
62.5°	530.6	526.7	511.3	499.7	495.8
65°	475.2	468.8	455.9	445.6	441.7
67.5°	416.0	410.8	400.5	391.5	386.3
70°	363.2	355.4	347.7	338.7	332.3
72.5°	307.8	302.6	293.6	285.9	283.3
75°	251.1	246.0	242.1	235.7	231.8
77.5°	200.9	198.3	193.2	188.0	188.0
80°	152.0	148.1	145.5	144.2	144.2
82.5°	104.3	104.3	104.3	101.7	100.5
85°	67.0	64.4	64.4	61.8	61.8
87.5°	33.5	29.6	28.3	27.0	27.0
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	21.43	23.05	21.80	23.36	23.68	21.11	22.73	21.48	23.05	23.36
	3H	23.20	24.66	23.58	24.99	25.35	22.83	24.29	23.21	24.62	24.98
	4H	23.86	25.23	24.26	25.58	25.96	23.47	24.85	23.87	25.19	25.57
	6H	24.35	25.62	24.76	25.99	26.38	23.95	25.23	24.37	25.60	25.99
	8H	24.50	25.72	24.92	26.11	26.51	24.11	25.33	24.54	25.72	26.12
	12H	24.61	25.77	25.03	26.15	26.58	24.22	25.39	24.65	25.77	26.20
4H	2H	22.01	23.39	22.41	23.73	24.11	21.76	23.14	22.16	23.48	23.86
	3H	24.00	25.16	24.41	25.55	25.95	23.70	24.85	24.10	25.25	25.65
	4H	24.79	25.83	25.22	26.24	26.68	24.46	25.50	24.89	25.91	26.35
	6H	25.40	26.32	25.86	26.76	27.21	25.07	25.98	25.52	26.42	26.88
	8H	25.61	26.46	26.07	26.90	27.37	25.28	26.13	25.74	26.57	27.04
	12H	25.76	26.52	26.24	27.00	27.47	25.43	26.19	25.91	26.67	27.14
8H	4H	25.07	25.92	25.53	26.37	26.83	24.78	25.63	25.24	26.08	26.54
	6H	25.81	26.52	26.30	27.01	27.48	25.51	26.22	26.01	26.71	27.19
	8H	26.08	26.72	26.59	27.23	27.71	25.79	26.43	26.30	26.94	27.42
	12H	26.31	26.87	26.82	27.36	27.92	26.02	26.58	26.53	27.07	27.63
12H	4H	25.10	25.87	25.58	26.34	26.81	24.82	25.58	25.30	26.06	26.53
	6H	25.86	26.50	26.37	27.00	27.49	25.58	26.21	26.08	26.72	27.21
	8H	26.19	26.75	26.70	27.24	27.81	25.92	26.48	26.42	26.97	27.53