

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: P242533

Luminaire Tested: S123RDRP-S1000D830-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242533  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-25)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDRP-S1000D830-X4F0-XX-UDD-F-W  
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

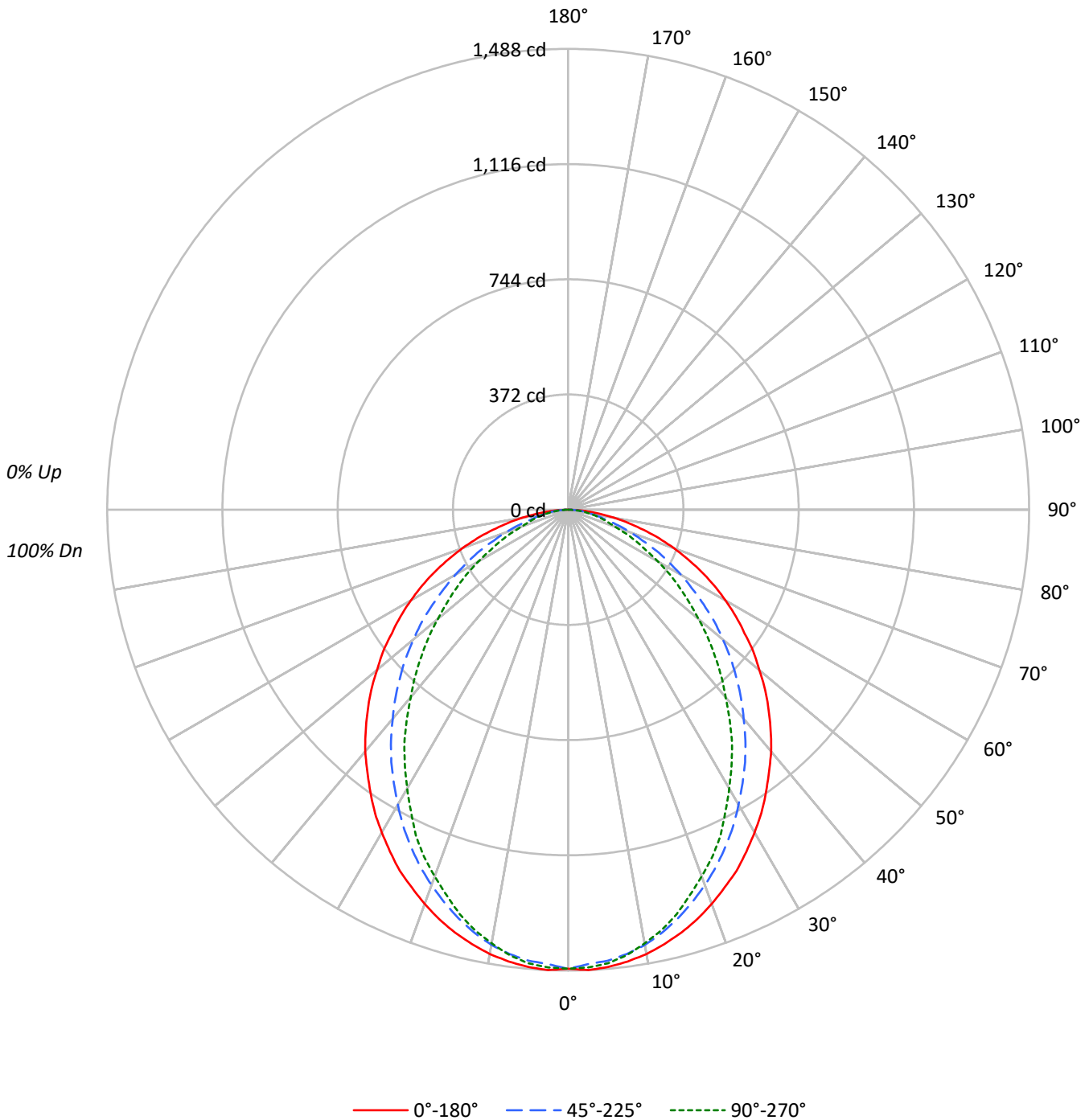
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3348.2 lumens  
Efficiency: N/A  
Efficacy: 96.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.07 / 1.22  
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																												
1	110	105	101	98	107	103	99	96	99	96	93	95	93	90	91	89	88	86																												
2	100	93	86	81	98	91	85	80	87	83	78	84	80	77	81	78	75	73																												
3	92	82	75	68	90	81	74	68	78	72	67	75	70	66	73	68	64	62																												
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54																												
5	78	66	57	51	76	65	57	51	63	56	50	61	55	50	59	54	49	47																												
6	73	60	51	45	71	59	51	45	57	50	45	55	49	44	54	48	44	42																												
7	67	54	46	40	66	54	46	40	52	45	40	51	44	39	49	44	39	37																												
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34																												
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30																												
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	34	29	28																												

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

	0°	45°	90°
0°	17964	17964	17964
5°	18032	17784	17886
10°	17931	17560	17501
15°	17738	17149	16969
20°	17473	16636	16249
25°	17201	16060	15545
30°	16840	15393	14552
35°	16469	14726	13642
40°	16129	13940	12515
45°	15680	13167	11497
50°	15186	12286	10358
55°	14681	11279	9296
60°	14221	10199	8131
65°	13618	9032	6964
70°	12865	7584	5624
75°	11764	5967	5292
80°	10484	5284	4865
85°	8859	4687	4353

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 15680 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	139.3	4.2
10°-20°	387.6	11.6
20°-30°	558.0	16.7
30°-40°	628.4	18.8
40°-50°	601.1	18.0
50°-60°	492.1	14.7
60°-70°	331.8	9.9
70°-80°	166.4	5.0
80°-90°	43.5	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°	1084.9	32.4
0°-40°	1713.3	51.2
0°-60°	2806.5	83.8
0°-90°	3348.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3348.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1482	1482	1482	1482	1482	
5°	1482	1476	1462	1472	1470	141
15°	1414	1400	1367	1361	1352	398
25°	1286	1256	1201	1176	1162	592
35°	1113	1070	995	944	922	697
45°	915	861	768	700	671	706
55°	695	636	534	464	440	623
65°	475	409	315	256	243	470
75°	251	194	127	115	113	268
85°	64	37	34	31	31	74
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1482.0	1482.0	1482.0	1482.0	1482.0
2.5°	1488.0	1483.2	1468.8	1482.0	1479.6
5°	1482.0	1476.0	1461.6	1472.4	1470.0
7.5°	1471.2	1465.2	1447.2	1454.4	1450.8
10°	1456.8	1448.4	1426.7	1427.9	1421.9
12.5°	1436.4	1426.7	1399.1	1397.9	1390.7
15°	1413.5	1400.3	1366.6	1360.6	1352.2
17.5°	1385.9	1371.5	1329.4	1317.4	1305.3
20°	1354.6	1335.4	1289.7	1274.1	1259.7
22.5°	1319.8	1296.9	1247.7	1227.2	1214.0
25°	1286.1	1256.1	1200.8	1175.5	1162.3
27.5°	1245.2	1212.8	1152.7	1119.0	1098.6
30°	1203.2	1167.1	1099.8	1058.9	1039.7
32.5°	1161.1	1119.0	1046.9	1001.2	980.8
35°	1113.0	1069.8	995.2	943.6	921.9
37.5°	1065.0	1018.1	939.9	882.3	855.8
40°	1019.3	966.4	881.0	818.5	790.9
42.5°	967.6	914.7	825.8	756.0	732.0
45°	914.7	860.6	768.1	699.5	670.7
47.5°	863.0	802.9	711.6	637.0	611.8
50°	805.3	748.8	651.5	576.9	549.3
52.5°	753.6	691.1	595.0	516.8	492.8
55°	694.7	635.8	533.7	464.0	439.9
57.5°	641.9	578.2	474.8	408.7	388.2
60°	586.6	520.5	420.7	355.8	335.4
62.5°	531.3	465.2	365.4	305.3	283.7
65°	474.8	408.7	314.9	256.0	242.8
67.5°	418.3	351.0	259.6	215.2	200.7
70°	363.0	298.1	214.0	171.9	158.7
72.5°	307.7	244.0	169.5	137.0	133.4
75°	251.2	193.5	127.4	115.4	113.0
77.5°	199.5	146.6	99.8	92.6	90.1
80°	150.2	101.0	75.7	72.1	69.7
82.5°	103.4	62.5	54.1	50.5	50.5
85°	63.7	37.3	33.7	31.3	31.3
87.5°	28.8	15.6	15.6	14.4	13.2
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	21.48	23.04	21.85	23.35	23.67	18.85	20.41	19.22	20.72	21.04
	3H	23.26	24.66	23.64	24.99	25.35	19.97	21.36	20.34	21.69	22.05
	4H	23.92	25.23	24.32	25.58	25.96	20.36	21.67	20.76	22.02	22.40
	6H	24.40	25.62	24.81	25.98	26.37	20.68	21.89	21.09	22.26	22.65
	8H	24.55	25.71	24.98	26.10	26.50	20.79	21.95	21.22	22.34	22.74
	12H	24.65	25.76	25.08	26.14	26.57	20.86	21.97	21.29	22.35	22.78
4H	2H	21.74	23.06	22.14	23.40	23.78	19.57	20.88	19.97	21.23	21.61
	3H	23.71	24.80	24.12	25.20	25.60	20.84	21.94	21.25	22.34	22.74
	4H	24.48	25.46	24.91	25.87	26.31	21.32	22.31	21.76	22.72	23.16
	6H	25.07	25.93	25.53	26.37	26.83	21.74	22.60	22.20	23.04	23.50
	8H	25.26	26.06	25.73	26.51	26.97	21.89	22.69	22.35	23.13	23.60
	12H	25.41	26.13	25.89	26.60	27.07	22.00	22.72	22.48	23.19	23.66
8H	4H	24.53	25.33	24.99	25.78	26.24	21.65	22.45	22.11	22.89	23.36
	6H	25.19	25.85	25.69	26.34	26.82	22.16	22.82	22.65	23.31	23.79
	8H	25.43	26.02	25.94	26.53	27.02	22.36	22.96	22.88	23.47	23.95
	12H	25.63	26.15	26.14	26.64	27.21	22.53	23.06	23.04	23.55	24.11
12H	4H	24.52	25.24	25.00	25.71	26.18	21.69	22.41	22.17	22.88	23.35
	6H	25.18	25.77	25.69	26.28	26.77	22.22	22.81	22.73	23.32	23.81
	8H	25.45	25.98	25.96	26.47	27.03	22.48	23.00	22.98	23.49	24.06