

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: P242553

Luminaire Tested: S123RDRP-S1165D935-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242553  
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-S1165D935-X4F0-XX-UDD-F-W  
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

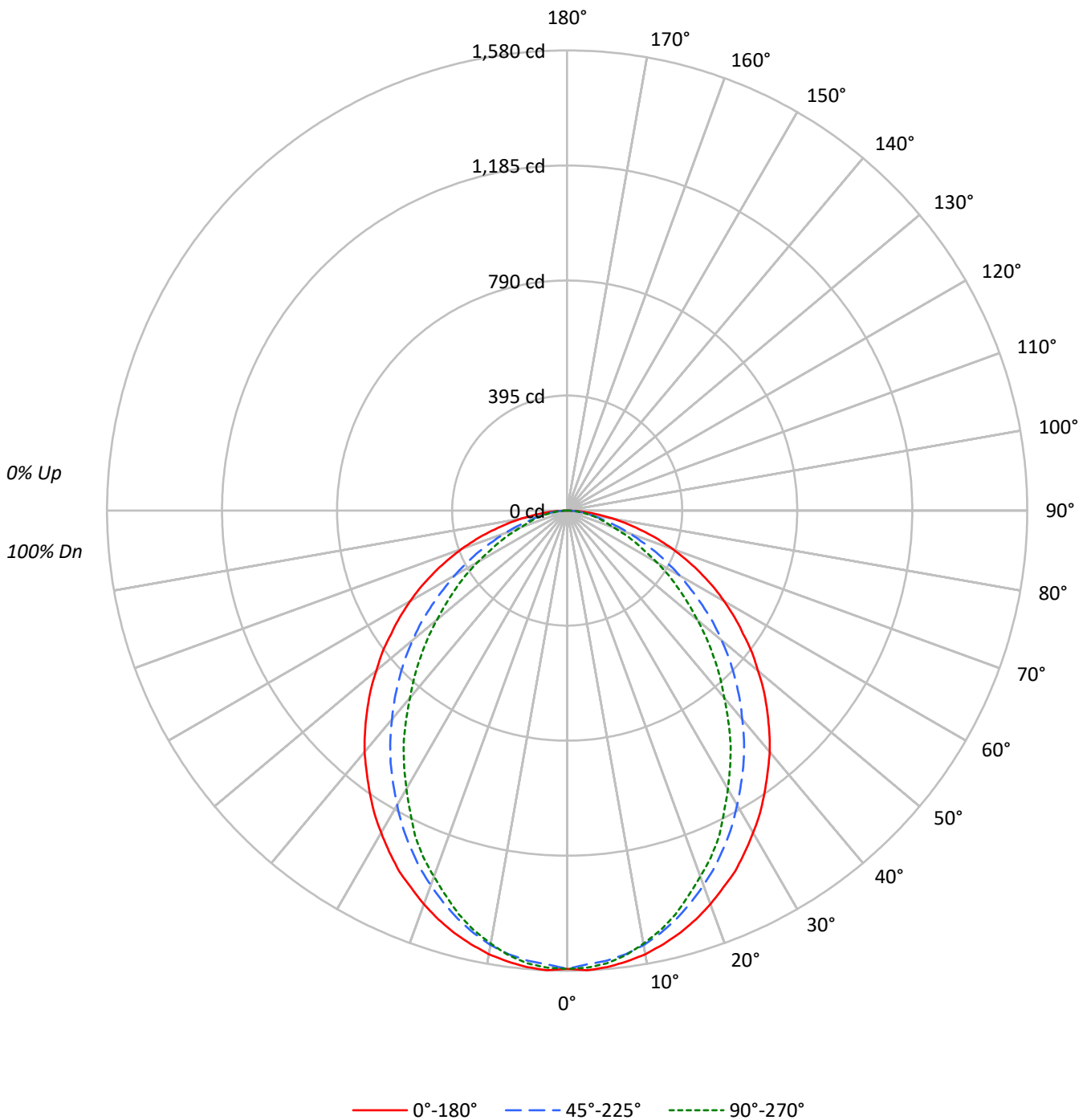
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3554.6 lumens  
Efficiency: N/A  
Efficacy: 86.5 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): 41.1  
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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	110	105	101	98	107	103	99	96	99	96	93	95	93	90	91	89	88
2	100	93	86	81	98	91	85	80	87	83	78	84	80	77	81	78	75
3	92	82	75	68	90	81	74	68	78	72	67	75	70	66	73	68	64
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56
5	78	66	57	51	76	65	57	51	63	56	50	61	55	50	59	54	49
6	73	60	51	45	71	59	51	45	57	50	45	55	49	44	54	48	44
7	67	54	46	40	66	54	46	40	52	45	40	51	44	39	49	44	39
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	34	29

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

	0°	45°	90°
0°	19072	19072	19072
5°	19144	18880	18989
10°	19036	18643	18580
15°	18832	18207	18015
20°	18550	17661	17250
25°	18261	17050	16504
30°	17878	16342	15449
35°	17484	15635	14482
40°	17122	14801	13287
45°	16647	13978	12205
50°	16123	13042	10998
55°	15587	11974	9869
60°	15096	10827	8630
65°	14455	9588	7394
70°	13659	8048	5968
75°	12490	6336	5620
80°	11134	5612	5165
85°	9402	4965	4617

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 16647 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	147.9	4.2
10°-20°	411.5	11.6
20°-30°	592.4	16.7
30°-40°	667.2	18.8
40°-50°	638.2	18.0
50°-60°	522.4	14.7
60°-70°	352.2	9.9
70°-80°	176.6	5.0
80°-90°	46.2	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°	1151.8	32.4
0°-40°	1819.0	51.2
0°-60°	2979.5	83.8
0°-90°	3554.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3554.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1573	1573	1573	1573	1573	
5°	1573	1567	1552	1563	1561	149
15°	1501	1487	1451	1444	1436	423
25°	1365	1334	1275	1248	1234	628
35°	1182	1136	1057	1002	979	740
45°	971	914	815	743	712	749
55°	738	675	567	493	467	661
65°	504	434	334	272	258	499
75°	267	205	135	122	120	284
85°	68	40	36	33	33	78
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1573.4	1573.4	1573.4	1573.4	1573.4
2.5°	1579.8	1574.7	1559.4	1573.4	1570.8
5°	1573.4	1567.0	1551.7	1563.2	1560.6
7.5°	1561.9	1555.5	1536.4	1544.0	1540.2
10°	1546.6	1537.7	1514.7	1516.0	1509.6
12.5°	1524.9	1514.7	1485.3	1484.1	1476.4
15°	1500.7	1486.6	1450.9	1444.5	1435.6
17.5°	1471.3	1456.0	1411.3	1398.6	1385.8
20°	1438.1	1417.7	1369.2	1352.6	1337.3
22.5°	1401.1	1376.9	1324.6	1302.9	1288.8
25°	1365.4	1333.5	1274.8	1248.0	1234.0
27.5°	1322.0	1287.6	1223.8	1188.0	1166.3
30°	1277.3	1239.1	1167.6	1124.2	1103.8
32.5°	1232.7	1188.0	1111.5	1063.0	1041.3
35°	1181.6	1135.7	1056.6	1001.7	978.7
37.5°	1130.6	1080.8	997.9	936.6	908.6
40°	1082.1	1026.0	935.4	869.0	839.7
42.5°	1027.2	971.1	876.7	802.6	777.1
45°	971.1	913.7	815.4	742.7	712.0
47.5°	916.2	852.4	755.4	676.3	649.5
50°	855.0	795.0	691.6	612.5	583.2
52.5°	800.1	733.7	631.7	548.7	523.2
55°	737.6	675.0	566.6	492.6	467.0
57.5°	681.4	613.8	504.0	433.9	412.2
60°	622.7	552.5	446.6	377.7	356.0
62.5°	564.0	493.8	387.9	324.1	301.2
65°	504.0	433.9	334.3	271.8	257.8
67.5°	444.1	372.6	275.6	228.4	213.1
70°	385.4	316.5	227.1	182.5	168.4
72.5°	326.7	259.0	179.9	145.5	141.6
75°	266.7	205.4	135.3	122.5	120.0
77.5°	211.8	155.7	105.9	98.3	95.7
80°	159.5	107.2	80.4	76.6	74.0
82.5°	109.7	66.4	57.4	53.6	53.6
85°	67.6	39.6	35.7	33.2	33.2
87.5°	30.6	16.6	16.6	15.3	14.0
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	21.69	23.25	22.06	23.56	23.87	19.06	20.62	19.43	20.93	21.25
	3H	23.47	24.87	23.85	25.19	25.56	20.17	21.57	20.55	21.90	22.26
	4H	24.13	25.44	24.53	25.79	26.17	20.57	21.88	20.97	22.23	22.61
	6H	24.61	25.82	25.02	26.19	26.58	20.89	22.10	21.30	22.47	22.86
	8H	24.76	25.92	25.19	26.31	26.71	21.00	22.15	21.42	22.54	22.94
	12H	24.86	25.97	25.29	26.35	26.78	21.07	22.18	21.50	22.56	22.99
4H	2H	21.95	23.26	22.35	23.61	23.99	19.78	21.09	20.18	21.44	21.81
	3H	23.91	25.00	24.32	25.40	25.80	21.05	22.14	21.46	22.54	22.94
	4H	24.68	25.67	25.12	26.08	26.52	21.53	22.52	21.96	22.93	23.37
	6H	25.28	26.13	25.74	26.58	27.04	21.95	22.81	22.41	23.25	23.71
	8H	25.47	26.27	25.93	26.71	27.18	22.10	22.90	22.56	23.34	23.81
	12H	25.62	26.33	26.10	26.81	27.28	22.21	22.92	22.69	23.40	23.87
8H	4H	24.74	25.54	25.20	25.98	26.45	21.85	22.65	22.32	23.10	23.56
	6H	25.40	26.06	25.90	26.55	27.03	22.37	23.03	22.86	23.52	24.00
	8H	25.63	26.23	26.15	26.74	27.22	22.57	23.16	23.08	23.67	24.16
	12H	25.83	26.36	26.34	26.85	27.41	22.74	23.27	23.25	23.76	24.32
12H	4H	24.73	25.44	25.21	25.92	26.39	21.90	22.61	22.38	23.09	23.56
	6H	25.39	25.98	25.90	26.49	26.98	22.43	23.02	22.94	23.53	24.02
	8H	25.66	26.18	26.17	26.67	27.24	22.68	23.21	23.19	23.70	24.26