

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: P242715

Luminaire Tested: S124RDRP-S1195D840-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242715  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-26)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDRP-S1195D840-X4F0-XX-UDD-F-W  
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

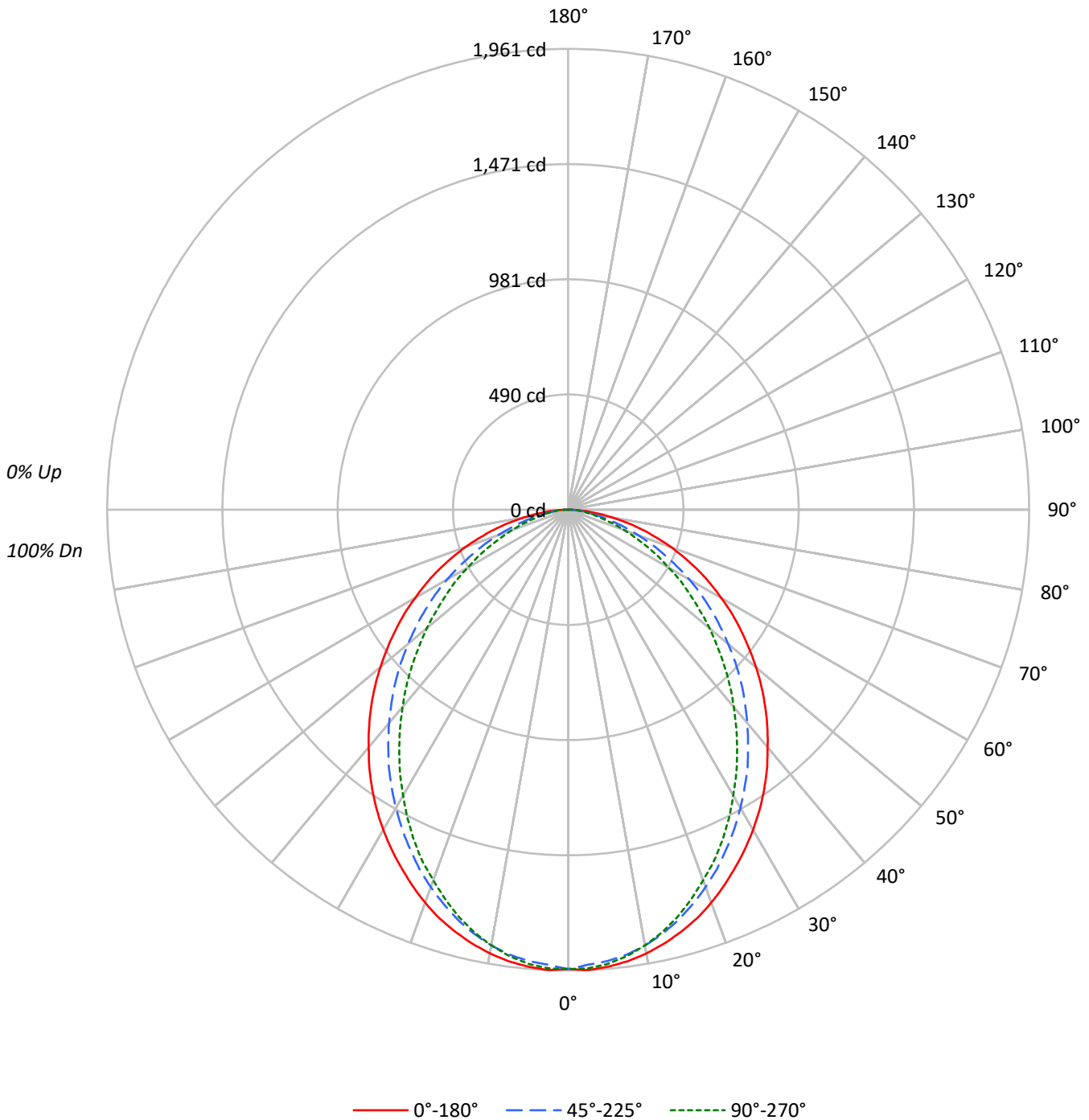
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4516.5 lumens  
Efficiency: N/A  
Efficacy: 109.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 41.1  
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	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	92	90	91	89	87	85
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	74	72
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	65	60	56	54
5	78	66	57	51	76	65	56	50	62	55	50	61	54	49	59	53	49	47
6	72	59	51	45	70	58	50	44	57	49	44	55	49	44	53	48	43	41
7	67	54	46	40	65	53	45	40	52	45	39	50	44	39	49	43	39	37
8	63	50	41	36	61	49	41	36	48	40	35	46	40	35	45	39	35	33
9	59	46	38	32	57	45	37	32	44	37	32	43	36	32	42	36	32	30
10	55	42	35	29	54	42	34	29	41	34	29	40	33	29	39	33	29	27

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

	0°	45°	90°
0°	17375	17375	17375
5°	17415	17201	17308
10°	17306	16994	16994
15°	17106	16638	16514
20°	16834	16168	15871
25°	16485	15619	15223
30°	16145	15040	14410
35°	15770	14439	13593
40°	15318	13755	12713
45°	14901	13076	11815
50°	14426	12294	10867
55°	13917	11482	9835
60°	13356	10590	8780
65°	12845	9475	7744
70°	12098	8246	6573
75°	11155	6838	5347
80°	9731	5211	4904
85°	8241	4732	4426

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14901 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	183.8	4.1
10°-20°	512.5	11.3
20°-30°	739.9	16.4
30°-40°	838.6	18.6
40°-50°	809.6	17.9
50°-60°	673.1	14.9
60°-70°	464.6	10.3
70°-80°	234.8	5.2
80°-90°	59.6	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°	1436.2	31.8
0°-40°	2274.8	50.4
0°-60°	3757.5	83.2
0°-90°	4516.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4516.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1955	1955	1955	1955	1955	
5°	1952	1946	1928	1943	1940	185
15°	1859	1845	1808	1805	1794	524
25°	1681	1654	1592	1567	1552	774
35°	1453	1405	1331	1280	1253	908
45°	1185	1130	1040	967	940	914
55°	898	838	741	663	635	803
65°	611	546	450	386	368	603
75°	325	269	199	165	156	343
85°	81	51	46	43	43	93
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1954.7	1954.7	1954.7	1954.7	1954.7
2.5°	1960.7	1954.7	1938.2	1954.7	1953.2
5°	1951.7	1945.7	1927.7	1942.7	1939.7
7.5°	1938.2	1932.2	1909.8	1920.3	1915.8
10°	1917.3	1909.8	1882.8	1888.8	1882.8
12.5°	1890.3	1881.3	1848.4	1851.4	1842.4
15°	1858.9	1845.4	1808.0	1805.0	1794.5
17.5°	1823.0	1803.5	1760.1	1752.6	1737.7
20°	1779.6	1760.1	1709.2	1697.3	1677.8
22.5°	1731.7	1709.2	1653.9	1634.4	1619.4
25°	1680.8	1653.9	1592.5	1567.0	1552.1
27.5°	1628.4	1595.5	1531.1	1501.2	1480.2
30°	1573.0	1535.6	1465.3	1427.8	1403.9
32.5°	1514.7	1471.3	1397.9	1353.0	1330.6
35°	1453.3	1405.4	1330.6	1279.7	1252.7
37.5°	1388.9	1339.5	1257.2	1201.8	1174.9
40°	1320.1	1270.7	1185.4	1122.5	1095.6
42.5°	1254.2	1201.8	1112.0	1047.7	1019.3
45°	1185.4	1130.0	1040.2	966.9	939.9
47.5°	1115.0	1058.2	965.4	889.0	859.1
50°	1043.2	984.8	889.0	814.2	785.8
52.5°	969.9	913.0	814.2	737.9	707.9
55°	898.0	838.2	740.9	663.0	634.6
57.5°	827.7	764.8	669.0	589.7	568.7
60°	751.3	691.5	595.7	517.9	493.9
62.5°	682.5	619.6	520.9	450.5	432.5
65°	610.7	546.3	450.5	386.1	368.2
67.5°	535.8	474.5	384.7	327.8	306.8
70°	465.5	402.6	317.3	267.9	252.9
72.5°	390.6	335.3	255.9	215.5	202.1
75°	324.8	269.4	199.1	164.6	155.7
77.5°	255.9	208.0	148.2	124.2	121.2
80°	190.1	146.7	101.8	97.3	95.8
82.5°	133.2	94.3	73.3	70.3	68.8
85°	80.8	50.9	46.4	43.4	43.4
87.5°	34.4	22.5	21.0	19.5	21.0
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	21.26	22.83	21.63	23.14	23.46	19.29	20.86	19.66	21.17	21.49
	3H	23.03	24.44	23.41	24.77	25.13	20.55	21.96	20.92	22.28	22.64
	4H	23.69	25.02	24.09	25.37	25.74	20.92	22.25	21.32	22.59	22.97
	6H	24.17	25.39	24.58	25.76	26.15	21.18	22.41	21.60	22.77	23.17
	8H	24.32	25.49	24.74	25.87	26.27	21.28	22.44	21.70	22.83	23.23
	12H	24.42	25.53	24.85	25.92	26.34	21.34	22.46	21.77	22.84	23.27
4H	2H	21.60	22.92	22.00	23.27	23.65	19.99	21.31	20.39	21.66	22.04
	3H	23.57	24.67	23.98	25.07	25.47	21.42	22.52	21.83	22.92	23.32
	4H	24.35	25.34	24.78	25.75	26.19	21.88	22.87	22.31	23.28	23.72
	6H	24.94	25.81	25.40	26.25	26.71	22.22	23.09	22.68	23.53	23.99
	8H	25.14	25.94	25.60	26.39	26.85	22.35	23.16	22.81	23.60	24.07
	12H	25.28	26.00	25.76	26.48	26.95	22.45	23.17	22.93	23.65	24.12
8H	4H	24.44	25.25	24.90	25.69	26.16	22.19	23.00	22.65	23.44	23.91
	6H	25.11	25.78	25.61	26.27	26.75	22.62	23.29	23.12	23.78	24.26
	8H	25.36	25.96	25.87	26.46	26.95	22.80	23.40	23.31	23.91	24.40
	12H	25.55	26.08	26.06	26.57	27.14	22.96	23.49	23.47	23.98	24.54
12H	4H	24.43	25.16	24.91	25.63	26.10	22.23	22.95	22.71	23.43	23.90
	6H	25.10	25.70	25.62	26.21	26.70	22.67	23.27	23.19	23.78	24.27
	8H	25.39	25.92	25.89	26.41	26.97	22.90	23.43	23.41	23.93	24.49