

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: P243478

Luminaire Tested: S124DRP-H350D935-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243478  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-84)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DRP-H350D935-X4F0-XX-UDD-F-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

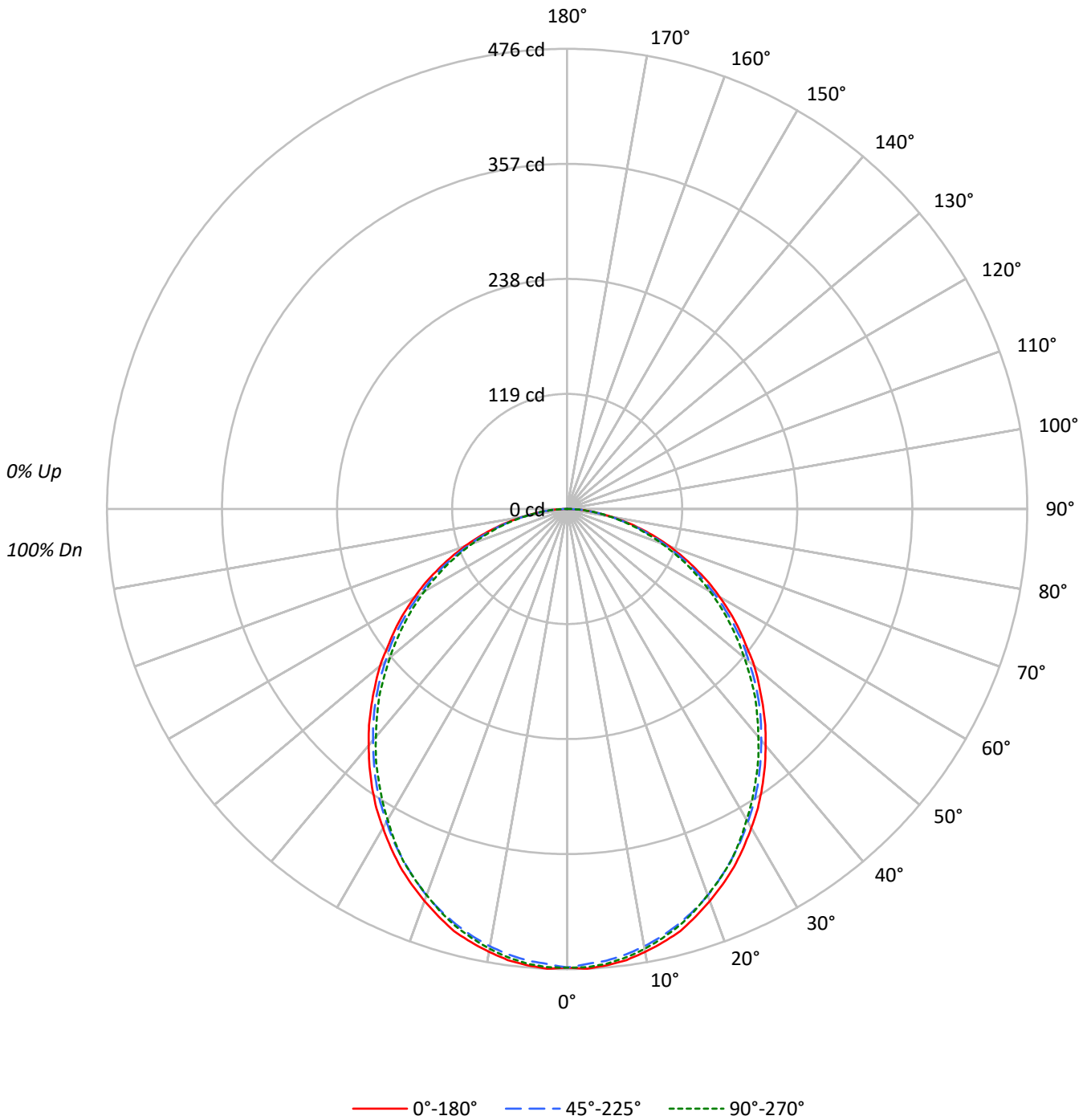
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1221.4 lumens  
Efficiency: N/A  
Efficacy: 109.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.2  
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	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51
5	77	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51	47	44
6	71	58	49	42	69	57	48	42	55	47	42	53	46	41	52	46	41	39
7	66	52	44	38	64	51	43	37	50	43	37	48	42	37	47	41	37	35
8	61	48	39	34	60	47	39	33	46	38	33	45	38	33	43	37	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	52	40	33	27	39	32	27	38	32	27	37	31	27	25

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

	0°	45°	90°
0°	4217	4217	4217
5°	4227	4185	4212
10°	4199	4147	4171
15°	4160	4092	4111
20°	4083	4024	4020
25°	4006	3934	3938
30°	3911	3836	3812
35°	3816	3740	3695
40°	3705	3624	3570
45°	3597	3524	3456
50°	3497	3395	3309
55°	3368	3279	3177
60°	3239	3129	3033
65°	3086	2980	2882
70°	2919	2789	2698
75°	2693	2586	2507
80°	2370	2334	2273
85°	2091	2091	2050

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3597 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.7	3.7
10°-20°	126.1	10.3
20°-30°	185.7	15.2
30°-40°	216.1	17.7
40°-50°	216.2	17.7
50°-60°	189.1	15.5
60°-70°	140.4	11.5
70°-80°	80.0	6.6
80°-90°	23.1	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°	356.6	29.2
0°-40°	572.7	46.9
0°-60°	977.9	80.1
0°-90°	1221.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1221.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	474	474	474	474	474	
5°	474	473	469	472	472	45
15°	452	450	445	447	447	127
25°	408	406	401	402	402	188
35°	352	349	345	342	340	220
45°	286	285	280	276	275	221
55°	217	216	212	207	205	194
65°	147	146	142	139	137	146
75°	78	77	75	74	73	83
85°	20	20	20	20	20	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	474.4	474.4	474.4	474.4	474.4
2.5°	476.0	474.8	471.0	474.8	474.4
5°	473.7	472.9	469.0	472.5	472.1
7.5°	470.6	469.0	464.8	468.3	467.9
10°	465.2	464.0	459.4	462.9	462.1
12.5°	459.0	457.8	452.8	455.5	454.8
15°	452.1	449.7	444.7	447.4	446.7
17.5°	442.0	440.5	435.5	437.8	436.6
20°	431.6	429.7	425.4	425.8	425.0
22.5°	420.4	418.5	413.5	415.0	413.5
25°	408.4	406.5	401.1	402.3	401.5
27.5°	394.9	393.0	388.0	388.4	386.8
30°	381.0	378.7	373.7	373.3	371.4
32.5°	367.1	364.8	359.8	358.2	356.3
35°	351.7	348.6	344.7	341.6	340.5
37.5°	335.9	334.3	328.5	326.6	325.0
40°	319.3	317.7	312.3	309.6	307.7
42.5°	303.4	301.5	296.5	292.6	291.1
45°	286.1	284.9	280.3	276.0	274.9
47.5°	269.1	268.7	262.9	258.6	256.7
50°	252.9	250.5	245.5	241.7	239.3
52.5°	233.9	233.6	229.3	224.3	222.4
55°	217.3	215.8	211.6	206.9	205.0
57.5°	200.0	199.2	193.8	189.9	188.0
60°	182.2	180.7	176.0	172.6	170.6
62.5°	165.2	163.3	159.1	155.6	153.6
65°	146.7	145.5	141.7	138.6	137.0
67.5°	129.3	127.8	123.9	121.2	119.7
70°	112.3	110.0	107.3	105.0	103.8
72.5°	95.4	93.4	91.1	89.6	88.0
75°	78.4	76.8	75.3	73.7	73.0
77.5°	62.2	60.6	59.8	59.5	58.7
80°	46.3	45.6	45.6	45.2	44.4
82.5°	32.8	32.0	32.0	32.0	31.7
85°	20.5	20.1	20.5	19.7	20.1
87.5°	9.7	9.7	10.0	9.7	10.0
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	16.30	17.91	16.66	18.23	18.54	15.95	17.56	16.31	17.88	18.19
	3H	18.05	19.51	18.43	19.84	20.20	17.66	19.12	18.04	19.45	19.81
	4H	18.71	20.08	19.11	20.43	20.81	18.31	19.68	18.71	20.03	20.41
	6H	19.18	20.46	19.59	20.82	21.21	18.80	20.07	19.21	20.44	20.83
	8H	19.34	20.55	19.76	20.94	21.34	18.96	20.18	19.39	20.57	20.96
	12H	19.44	20.61	19.87	20.99	21.42	19.07	20.24	19.50	20.62	21.05
4H	2H	16.87	18.25	17.27	18.59	18.97	16.59	17.97	16.99	18.32	18.69
	3H	18.84	20.00	19.25	20.39	20.79	18.53	19.68	18.94	20.08	20.48
	4H	19.63	20.67	20.06	21.08	21.52	19.30	20.34	19.73	20.76	21.19
	6H	20.23	21.14	20.69	21.58	22.04	19.92	20.83	20.37	21.27	21.73
	8H	20.43	21.28	20.89	21.73	22.19	20.13	20.98	20.59	21.42	21.89
	12H	20.58	21.35	21.06	21.82	22.29	20.29	21.05	20.77	21.53	22.00
8H	4H	19.91	20.76	20.37	21.21	21.67	19.62	20.47	20.08	20.92	21.38
	6H	20.63	21.34	21.13	21.83	22.30	20.37	21.07	20.86	21.56	22.04
	8H	20.90	21.54	21.41	22.05	22.53	20.65	21.29	21.16	21.79	22.28
	12H	21.13	21.69	21.64	22.18	22.74	20.88	21.45	21.39	21.94	22.50
12H	4H	19.94	20.71	20.42	21.18	21.65	19.66	20.42	20.14	20.90	21.37
	6H	20.68	21.32	21.19	21.83	22.31	20.42	21.06	20.93	21.57	22.05
	8H	21.01	21.58	21.52	22.07	22.63	20.77	21.33	21.28	21.82	22.38