

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: P243469

Luminaire Tested: S124DRP-H575D840-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243469  
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-H575D840-X4F0-XX-UDD-F-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

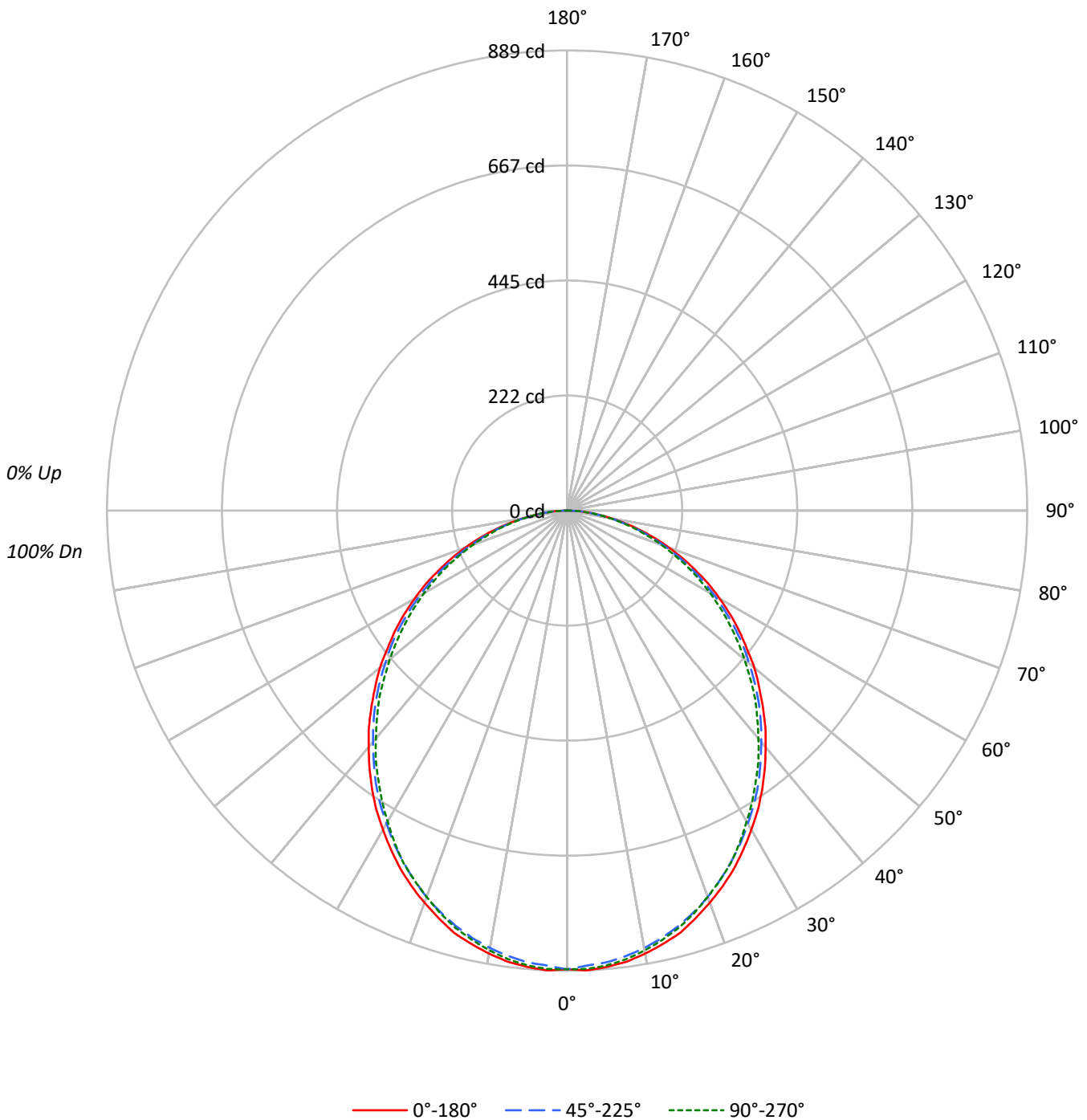
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2281.4 lumens  
Efficiency: N/A  
Efficacy: 132.6 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): 17.2  
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	49	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°	7877	7877	7877
5°	7895	7817	7869
10°	7843	7745	7790
15°	7771	7644	7678
20°	7626	7516	7510
25°	7482	7348	7355
30°	7305	7164	7120
35°	7128	6987	6901
40°	6919	6770	6669
45°	6717	6581	6454
50°	6531	6342	6183
55°	6292	6125	5934
60°	6050	5845	5666
65°	5763	5565	5384
70°	5453	5211	5042
75°	5028	4829	4681
80°	4428	4356	4244
85°	3896	3896	3825

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6717 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.6	3.7
10°-20°	235.6	10.3
20°-30°	346.9	15.2
30°-40°	403.6	17.7
40°-50°	403.8	17.7
50°-60°	353.2	15.5
60°-70°	262.3	11.5
70°-80°	149.4	6.6
80°-90°	43.0	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°	666.0	29.2
0°-40°	1069.7	46.9
0°-60°	1826.6	80.1
0°-90°	2281.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2281.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	886	886	886	886	886	
5°	885	883	876	883	882	84
15°	844	840	831	836	834	238
25°	763	759	749	751	750	351
35°	657	651	644	638	636	411
45°	534	532	524	516	513	413
55°	406	403	395	386	383	363
65°	274	272	265	259	256	272
75°	146	144	141	138	136	155
85°	38	38	38	37	38	44
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	886.2	886.2	886.2	886.2	886.2
2.5°	889.1	886.9	879.7	886.9	886.2
5°	884.8	883.3	876.1	882.6	881.9
7.5°	879.0	876.1	868.2	874.7	873.9
10°	868.9	866.7	858.1	864.6	863.1
12.5°	857.4	855.2	845.8	850.9	849.4
15°	844.4	840.1	830.7	835.7	834.3
17.5°	825.6	822.8	813.4	817.7	815.5
20°	806.2	802.6	794.6	795.4	793.9
22.5°	785.3	781.7	772.3	775.2	772.3
25°	762.9	759.3	749.2	751.4	749.9
27.5°	737.7	734.1	724.7	725.4	722.5
30°	711.7	707.4	698.0	697.3	693.7
32.5°	685.7	681.4	672.0	669.2	665.6
35°	656.9	651.1	643.9	638.2	636.0
37.5°	627.3	624.5	613.6	610.0	607.1
40°	596.3	593.4	583.4	578.3	574.7
42.5°	566.8	563.2	553.8	546.6	543.7
45°	534.3	532.2	523.5	515.6	513.4
47.5°	502.6	501.9	491.1	483.1	479.5
50°	472.3	468.0	458.6	451.4	447.1
52.5°	437.0	436.3	428.3	418.9	415.3
55°	406.0	403.1	395.2	386.5	382.9
57.5°	373.5	372.1	362.0	354.8	351.2
60°	340.3	337.5	328.8	322.3	318.7
62.5°	308.6	305.0	297.1	290.6	287.0
65°	274.0	271.8	264.6	258.9	256.0
67.5°	241.6	238.7	231.5	226.4	223.5
70°	209.8	205.5	200.5	196.1	194.0
72.5°	178.1	174.5	170.2	167.3	164.4
75°	146.4	143.5	140.6	137.7	136.3
77.5°	116.1	113.2	111.8	111.0	109.6
80°	86.5	85.1	85.1	84.4	82.9
82.5°	61.3	59.8	59.8	59.8	59.1
85°	38.2	37.5	38.2	36.8	37.5
87.5°	18.0	18.0	18.7	18.0	18.7
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	18.47	20.08	18.83	20.40	20.71	18.12	19.74	18.49	20.05	20.36
	3H	20.22	21.68	20.60	22.01	22.37	19.83	21.29	20.21	21.62	21.98
	4H	20.88	22.25	21.28	22.60	22.98	20.48	21.86	20.88	22.20	22.58
	6H	21.35	22.63	21.76	22.99	23.38	20.97	22.24	21.38	22.61	23.00
	8H	21.51	22.72	21.93	23.11	23.51	21.13	22.35	21.56	22.74	23.14
	12H	21.61	22.78	22.04	23.16	23.59	21.24	22.41	21.67	22.79	23.22
4H	2H	19.04	20.42	19.44	20.76	21.14	18.77	20.14	19.16	20.49	20.86
	3H	21.02	22.17	21.43	22.56	22.96	20.70	21.85	21.11	22.25	22.65
	4H	21.80	22.84	22.23	23.26	23.69	21.47	22.51	21.90	22.93	23.36
	6H	22.40	23.31	22.86	23.75	24.21	22.09	23.00	22.54	23.44	23.90
	8H	22.60	23.45	23.06	23.90	24.36	22.30	23.15	22.76	23.59	24.06
	12H	22.75	23.52	23.23	23.99	24.46	22.46	23.22	22.94	23.70	24.17
8H	4H	22.08	22.94	22.54	23.38	23.84	21.79	22.64	22.25	23.09	23.55
	6H	22.80	23.51	23.30	24.00	24.47	22.54	23.24	23.03	23.73	24.21
	8H	23.08	23.71	23.59	24.22	24.70	22.82	23.46	23.33	23.96	24.45
	12H	23.30	23.86	23.81	24.35	24.92	23.05	23.62	23.56	24.11	24.67
12H	4H	22.11	22.88	22.59	23.35	23.82	21.83	22.59	22.31	23.07	23.54
	6H	22.85	23.49	23.36	24.00	24.48	22.59	23.23	23.10	23.74	24.22
	8H	23.18	23.75	23.69	24.24	24.80	22.94	23.50	23.45	23.99	24.55