

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: P243485

Luminaire Tested: S124DRP-H795D940-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243485  
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-H795D940-X4F0-XX-UDD-F-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

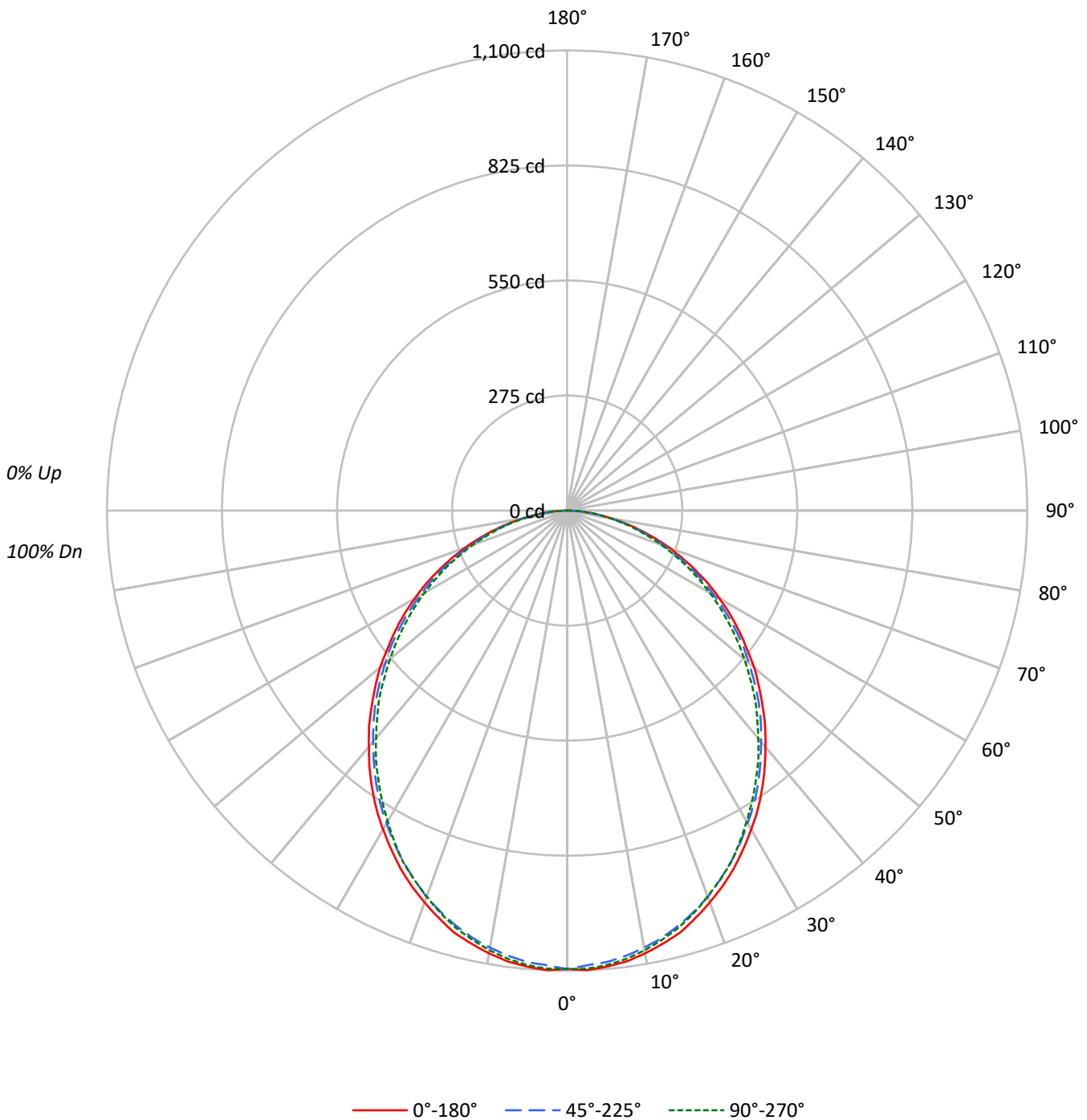
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2821.3 lumens  
Efficiency: N/A  
Efficacy: 119.5 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): 23.6  
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	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°	9741	9741	9741
5°	9763	9667	9731
10°	9698	9578	9634
15°	9609	9454	9494
20°	9430	9296	9287
25°	9253	9087	9096
30°	9033	8860	8804
35°	8815	8641	8535
40°	8557	8371	8247
45°	8307	8138	7981
50°	8077	7842	7646
55°	7780	7574	7338
60°	7483	7228	7006
65°	7128	6884	6659
70°	6744	6443	6235
75°	6216	5972	5787
80°	5477	5385	5247
85°	4824	4824	4732

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8307 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	103.3	3.7
10°-20°	291.3	10.3
20°-30°	429.0	15.2
30°-40°	499.1	17.7
40°-50°	499.4	17.7
50°-60°	436.7	15.5
60°-70°	324.4	11.5
70°-80°	184.8	6.5
80°-90°	53.2	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°	823.7	29.2
0°-40°	1322.8	46.9
0°-60°	2258.9	80.1
0°-90°	2821.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2821.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1096	1096	1096	1096	1096	
5°	1094	1092	1083	1092	1091	104
15°	1044	1039	1027	1034	1032	294
25°	943	939	926	929	927	434
35°	812	805	796	789	786	508
45°	661	658	647	638	635	510
55°	502	498	489	478	474	449
65°	339	336	327	320	317	336
75°	181	178	174	170	168	192
85°	47	46	47	46	46	54
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1095.9	1095.9	1095.9	1095.9	1095.9
2.5°	1099.5	1096.8	1087.9	1096.8	1095.9
5°	1094.1	1092.3	1083.4	1091.5	1090.6
7.5°	1087.0	1083.4	1073.6	1081.6	1080.8
10°	1074.5	1071.8	1061.1	1069.2	1067.4
12.5°	1060.2	1057.6	1046.0	1052.2	1050.4
15°	1044.2	1038.8	1027.3	1033.5	1031.7
17.5°	1021.0	1017.4	1005.9	1011.2	1008.5
20°	996.9	992.5	982.7	983.6	981.8
22.5°	971.1	966.6	955.0	958.6	955.0
25°	943.4	939.0	926.5	929.2	927.4
27.5°	912.2	907.8	896.2	897.1	893.5
30°	880.1	874.8	863.2	862.3	857.8
32.5°	848.0	842.7	831.1	827.5	823.0
35°	812.3	805.2	796.3	789.2	786.5
37.5°	775.8	772.2	758.8	754.4	750.8
40°	737.4	733.9	721.4	715.2	710.7
42.5°	700.9	696.4	684.8	675.9	672.4
45°	660.8	658.1	647.4	637.6	634.9
47.5°	621.5	620.6	607.3	597.4	593.0
50°	584.1	578.7	567.1	558.2	552.9
52.5°	540.4	539.5	529.7	518.1	513.6
55°	502.0	498.5	488.7	478.0	473.5
57.5°	461.9	460.1	447.6	438.7	434.3
60°	420.9	417.3	406.6	398.6	394.1
62.5°	381.7	377.2	367.4	359.4	354.9
65°	338.9	336.2	327.3	320.1	316.6
67.5°	298.7	295.2	286.2	280.0	276.4
70°	259.5	254.1	247.9	242.5	239.9
72.5°	220.3	215.8	210.4	206.9	203.3
75°	181.0	177.5	173.9	170.3	168.5
77.5°	143.6	140.0	138.2	137.3	135.5
80°	107.0	105.2	105.2	104.3	102.5
82.5°	75.8	74.0	74.0	74.0	73.1
85°	47.3	46.4	47.3	45.5	46.4
87.5°	22.3	22.3	23.2	22.3	23.2
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	19.21	20.82	19.57	21.14	21.45	18.86	20.47	19.22	20.79	21.10
	3H	20.96	22.42	21.34	22.75	23.11	20.57	22.03	20.95	22.36	22.72
	4H	21.62	22.99	22.01	23.34	23.71	21.22	22.59	21.62	22.94	23.32
	6H	22.09	23.36	22.50	23.73	24.12	21.71	22.98	22.12	23.35	23.74
	8H	22.24	23.46	22.67	23.85	24.25	21.87	23.08	22.29	23.47	23.87
	12H	22.35	23.51	22.78	23.90	24.32	21.98	23.15	22.41	23.53	23.96
4H	2H	19.78	21.15	20.18	21.50	21.88	19.50	20.88	19.90	21.22	21.60
	3H	21.75	22.90	22.16	23.30	23.70	21.44	22.59	21.85	22.98	23.38
	4H	22.54	23.58	22.97	23.99	24.43	22.21	23.25	22.64	23.66	24.10
	6H	23.14	24.05	23.60	24.49	24.95	22.83	23.74	23.28	24.18	24.63
	8H	23.34	24.19	23.80	24.63	25.10	23.04	23.89	23.50	24.33	24.80
	12H	23.49	24.26	23.97	24.73	25.20	23.20	23.96	23.68	24.44	24.90
8H	4H	22.82	23.67	23.28	24.12	24.58	22.53	23.38	22.99	23.82	24.29
	6H	23.54	24.25	24.03	24.74	25.21	23.27	23.98	23.77	24.47	24.94
	8H	23.81	24.45	24.32	24.96	25.44	23.56	24.19	24.07	24.70	25.19
	12H	24.04	24.60	24.55	25.09	25.65	23.79	24.35	24.30	24.84	25.41
12H	4H	22.85	23.62	23.33	24.09	24.56	22.57	23.33	23.05	23.81	24.28
	6H	23.59	24.23	24.10	24.74	25.22	23.33	23.97	23.84	24.47	24.96
	8H	23.92	24.48	24.43	24.97	25.54	23.68	24.24	24.18	24.73	25.29