

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: P243549

Luminaire Tested: S124DRP-H795D935-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243549  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-55)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DRP-H795D935-X4F0-XX-UDD-D-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

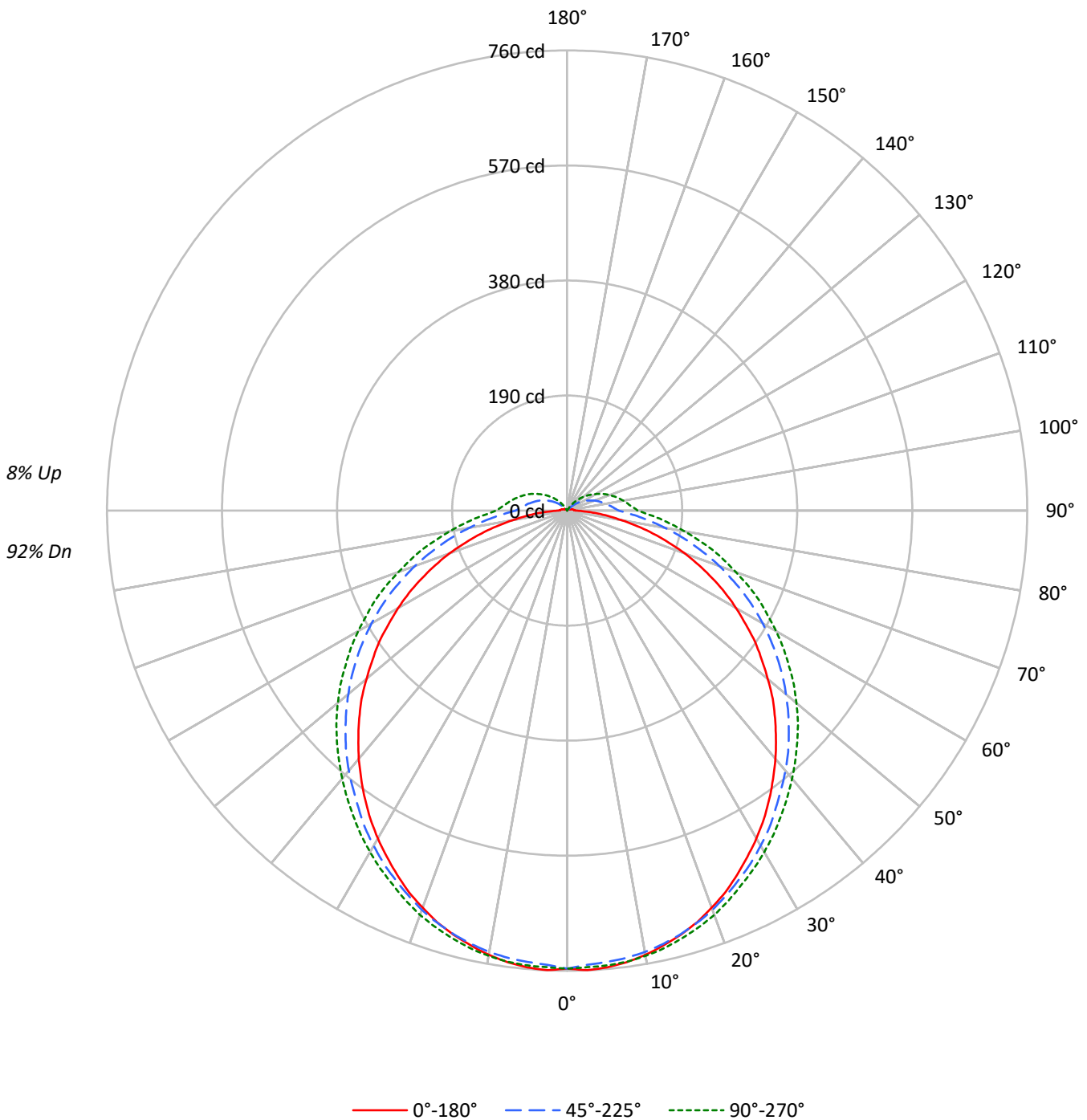
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2585.8 lumens  
Efficiency: N/A  
Efficacy: 109.6 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')  
CIE Type: Direct  
  
Input Watts (W): 23.6  
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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	92
1	105	100	95	91	102	97	93	89	91	88	84	86	83	80	81	79	77	74
2	95	86	79	73	92	84	77	71	79	73	68	74	70	66	70	67	63	60
3	86	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	46	55	49	45	43
5	72	59	50	43	70	58	49	42	55	47	41	52	45	40	49	43	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	39	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	28
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	20

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

	0°	45°	90°
0°	6724	6724	6724
5°	6745	6561	6575
10°	6701	6451	6438
15°	6634	6320	6283
20°	6549	6180	6127
25°	6448	6020	5947
30°	6340	5869	5792
35°	6222	5703	5631
40°	6102	5560	5481
45°	5976	5406	5337
50°	5831	5251	5188
55°	5704	5086	5017
60°	5526	4901	4849
65°	5318	4696	4679
70°	5070	4460	4437
75°	4677	4171	4262
80°	4143	3895	4014
85°	3749	3670	3868

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5976 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	71.6	2.8
10°-20°	205.4	7.9
20°-30°	310.8	12.0
30°-40°	376.4	14.6
40°-50°	398.1	15.4
50°-60°	375.0	14.5
60°-70°	311.7	12.1
70°-80°	219.1	8.5
80°-90°	123.4	4.8
90°-100°	73.2	2.8
100°-110°	54.2	2.1
110°-120°	36.2	1.4
120°-130°	20.4	0.8
130°-140°	8.7	0.3
140°-150°	1.7	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	587.8	22.7
0°-40°	964.2	37.3
0°-60°	1737.4	67.2
0°-90°	2391.4	92.5
90°-120°	163.6	6.3
90°-150°	194.4	7.5
90°-180°	194.0	7.5
0°-180°	2585.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	756	756	756	756	756	
5°	757	754	748	755	754	72
15°	725	727	724	732	732	205
25°	664	670	672	682	682	306
35°	582	592	600	613	616	364
45°	486	501	518	533	538	375
55°	379	400	424	442	447	338
65°	264	291	321	341	350	262
75°	147	178	214	238	248	156
85°	46	81	120	146	154	47
90°	14	47	85	108	117	9
95°	11	39	74	97	104	9
105°	8	25	56	77	84	8
115°	6	13	39	58	65	5
125°	3	2	23	39	45	3
135°	2	2	7	21	26	1
145°	1	0	0	5	8	1
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	756.5	756.5	756.5	756.5	756.5
2.5°	759.7	757.3	750.8	755.7	754.9
5°	757.3	754.1	748.4	754.9	754.1
7.5°	752.4	750.0	745.2	752.4	751.6
10°	745.2	743.6	740.4	746.8	746.8
12.5°	735.6	735.6	733.2	740.4	740.4
15°	725.1	726.7	724.3	732.4	731.5
17.5°	713.1	714.7	713.9	721.9	721.9
20°	697.8	700.2	701.8	710.6	710.6
22.5°	682.5	685.7	687.3	697.0	697.0
25°	664.0	669.6	672.1	681.7	681.7
27.5°	644.7	652.0	656.8	665.6	667.2
30°	625.4	633.5	639.1	648.7	651.2
32.5°	604.5	612.6	621.4	631.1	634.3
35°	582.0	591.7	600.5	613.4	615.8
37.5°	558.7	570.0	580.4	594.1	597.3
40°	535.4	549.1	561.1	574.0	578.0
42.5°	510.5	524.1	540.2	553.9	557.9
45°	485.6	500.8	517.7	533.0	537.8
47.5°	460.6	476.7	495.2	511.3	516.9
50°	432.5	450.2	471.9	488.0	494.4
52.5°	405.2	424.5	448.6	464.7	471.9
55°	379.4	399.5	423.7	442.1	447.0
57.5°	349.7	372.2	398.7	418.8	423.7
60°	322.4	344.9	373.0	393.1	398.7
62.5°	294.2	318.3	347.3	367.4	373.0
65°	264.5	291.0	320.8	340.9	349.7
67.5°	235.5	262.1	293.4	315.9	323.2
70°	206.6	233.9	267.7	290.2	295.8
72.5°	176.1	205.8	240.4	263.7	271.7
75°	147.1	178.5	213.8	238.0	247.6
77.5°	119.0	151.9	188.9	213.8	220.3
80°	90.8	127.0	164.0	188.9	197.0
82.5°	68.3	102.1	140.7	167.2	173.6
85°	45.8	81.2	119.8	145.5	153.5
87.5°	27.3	63.5	100.5	124.6	132.6
90°	13.7	47.4	85.2	108.5	116.6
92.5°	12.1	42.6	78.8	102.1	110.1
95°	11.3	38.6	74.0	97.3	103.7
97.5°	10.5	35.4	69.1	91.6	98.9
100°	9.6	31.4	65.1	86.8	94.1
102.5°	8.8	28.1	60.3	82.0	89.2
105°	8.0	24.9	56.3	77.2	84.4
107.5°	7.2	21.7	52.3	72.4	79.6
110°	6.4	18.5	48.2	67.5	74.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	5.6	16.1	43.4	62.7	69.9
115°	5.6	12.9	39.4	57.9	65.1
117.5°	4.8	9.6	35.4	53.1	59.5
120°	4.8	7.2	31.4	48.2	54.7
122.5°	4.0	4.8	27.3	44.2	49.8
125°	3.2	2.4	23.3	39.4	45.0
127.5°	3.2	2.4	19.3	34.6	40.2
130°	2.4	2.4	15.3	29.7	35.4
132.5°	2.4	1.6	11.3	25.7	30.5
135°	1.6	1.6	7.2	20.9	25.7
137.5°	1.6	0.8	4.8	16.9	21.7
140°	1.6	0.8	1.6	12.9	16.9
142.5°	0.8	0.8	0.0	8.8	12.1
145°	0.8	0.0	0.0	4.8	8.0
147.5°	0.8	0.0	0.0	0.8	4.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	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	16.41	17.94	16.89	18.40	18.90	17.99	19.52	18.47	19.98	20.48
	3H	18.06	19.45	18.55	19.93	20.46	20.30	21.69	20.79	22.17	22.71
	4H	18.63	19.95	19.14	20.44	20.99	21.37	22.69	21.88	23.18	23.73
	6H	19.01	20.24	19.54	20.75	21.31	22.42	23.65	22.94	24.15	24.72
	8H	19.12	20.30	19.66	20.83	21.40	22.93	24.11	23.47	24.64	25.21
	12H	19.18	20.31	19.73	20.83	21.44	23.49	24.61	24.03	25.14	25.74
4H	2H	17.27	18.59	17.78	19.08	19.63	18.49	19.81	19.00	20.30	20.85
	3H	19.15	20.28	19.68	20.81	21.39	21.03	22.15	21.55	22.68	23.26
	4H	19.87	20.89	20.41	21.44	22.04	22.25	23.28	22.80	23.82	24.43
	6H	20.38	21.29	20.95	21.86	22.48	23.48	24.38	24.04	24.95	25.57
	8H	20.54	21.39	21.11	21.96	22.59	24.08	24.93	24.65	25.50	26.14
	12H	20.64	21.41	21.23	22.01	22.65	24.74	25.52	25.33	26.11	26.75
8H	4H	20.45	21.30	21.02	21.87	22.50	22.51	23.36	23.07	23.93	24.56
	6H	21.14	21.86	21.74	22.47	23.11	23.89	24.61	24.49	25.22	25.86
	8H	21.39	22.04	22.00	22.66	23.31	24.63	25.28	25.24	25.90	26.55
	12H	21.58	22.16	22.19	22.77	23.49	25.45	26.03	26.07	26.64	27.36
12H	4H	20.58	21.35	21.17	21.95	22.59	22.52	23.29	23.11	23.89	24.53
	6H	21.35	22.00	21.97	22.63	23.28	23.94	24.59	24.55	25.21	25.86
	8H	21.69	22.27	22.31	22.88	23.60	24.75	25.32	25.36	25.93	26.65