

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: G3-1802-639-55

Luminaire Tested: S124DRP-H795D835-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: G3-1802-639-55  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DRP-H795D835-X4F0-XX-UDD-D-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

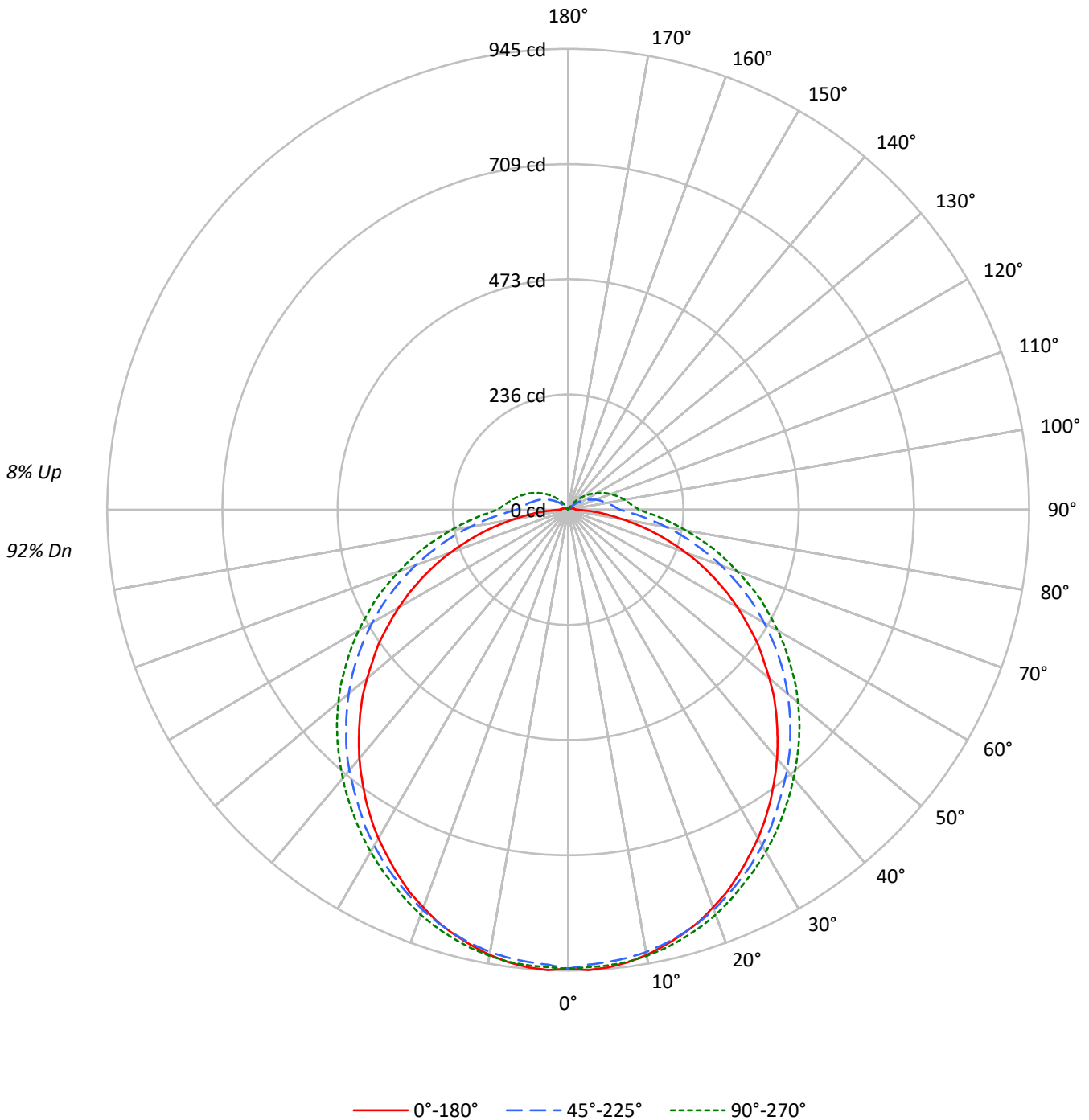
Lumens per Lamp: N/A  
Luminaire Lumens: 3216.6 lumens  
Efficiency: N/A  
Efficacy: 125.6 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')  
CIE Type: Direct

Input Watts (W): 25.6  
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°	8364	8364	8364
5°	8390	8162	8179
10°	8336	8025	8009
15°	8253	7862	7816
20°	8147	7688	7622
25°	8021	7488	7397
30°	7887	7301	7205
35°	7740	7094	7004
40°	7591	6917	6818
45°	7433	6725	6639
50°	7254	6531	6454
55°	7097	6326	6240
60°	6873	6097	6032
65°	6615	5840	5821
70°	6307	5548	5520
75°	5818	5189	5302
80°	5156	4844	4992
85°	4666	4565	4812

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7433 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	89.1	2.8
10°-20°	255.5	7.9
20°-30°	386.7	12.0
30°-40°	468.2	14.6
40°-50°	495.2	15.4
50°-60°	466.5	14.5
60°-70°	387.7	12.1
70°-80°	272.5	8.5
80°-90°	153.5	4.8
90°-100°	91.1	2.8
100°-110°	67.4	2.1
110°-120°	45.0	1.4
120°-130°	25.4	0.8
130°-140°	10.9	0.3
140°-150°	2.1	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	731.2	22.7
0°-40°	1199.4	37.3
0°-60°	2161.2	67.2
0°-90°	2974.8	92.5
90°-120°	203.5	6.3
90°-150°	241.8	7.5
90°-180°	242.0	7.5
0°-180°	3216.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	941	941	941	941	941	
5°	942	938	931	939	938	89
15°	902	904	901	911	910	254
25°	826	833	836	848	848	381
35°	724	736	747	763	766	453
45°	604	623	644	663	669	466
55°	472	497	527	550	556	421
65°	329	362	399	424	435	326
75°	183	222	266	296	308	194
85°	57	101	149	181	191	59
90°	17	59	106	135	145	11
95°	14	48	92	121	129	11
105°	10	31	70	96	105	11
115°	7	16	49	72	81	7
125°	4	3	29	49	56	4
135°	2	2	9	26	32	2
145°	1	0	0	6	10	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°	941	941	941	941	941
2.5°	945	942	934	940	939
5°	942	938	931	939	938
7.5°	936	933	927	936	935
10°	927	925	921	929	929
12.5°	915	915	912	921	921
15°	902	904	901	911	910
17.5°	887	889	888	898	898
20°	868	871	873	884	884
22.5°	849	853	855	867	867
25°	826	833	836	848	848
27.5°	802	811	817	828	830
30°	778	788	795	807	810
32.5°	752	762	773	785	789
35°	724	736	747	763	766
37.5°	695	709	722	739	743
40°	666	683	698	714	719
42.5°	635	652	672	689	694
45°	604	623	644	663	669
47.5°	573	593	616	636	643
50°	538	560	587	607	615
52.5°	504	528	558	578	587
55°	472	497	527	550	556
57.5°	435	463	496	521	527
60°	401	429	464	489	496
62.5°	366	396	432	457	464
65°	329	362	399	424	435
67.5°	293	326	365	393	402
70°	257	291	333	361	368
72.5°	219	256	299	328	338
75°	183	222	266	296	308
77.5°	148	189	235	266	274
80°	113	158	204	235	245
82.5°	85	127	175	208	216
85°	57	101	149	181	191
87.5°	34	79	125	155	165
90°	17	59	106	135	145
92.5°	15	53	98	127	137
95°	14	48	92	121	129
97.5°	13	44	86	114	123
100°	12	39	81	108	117
102.5°	11	35	75	102	111
105°	10	31	70	96	105
107.5°	9	27	65	90	99
110°	8	23	60	84	93



TEST NUMBER: G3-1802-639-55

CATALOG NUMBER: S124DRP-H795D835-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	7	20	54	78	87
115°	7	16	49	72	81
117.5°	6	12	44	66	74
120°	6	9	39	60	68
122.5°	5	6	34	55	62
125°	4	3	29	49	56
127.5°	4	3	24	43	50
130°	3	3	19	37	44
132.5°	3	2	14	32	38
135°	2	2	9	26	32
137.5°	2	1	6	21	27
140°	2	1	2	16	21
142.5°	1	1	0	11	15
145°	1	0	0	6	10
147.5°	1	0	0	1	5
150°	0	0	0	0	0
152.5°	0	0	0	0	0
155°	0	0	0	0	0
157.5°	0	0	0	0	0
160°	0	0	0	0	0
162.5°	0	0	0	0	0
165°	0	0	0	0	0
167.5°	0	0	0	0	0
170°	0	0	0	0	0
172.5°	0	0	0	0	0
175°	0	0	0	0	0
177.5°	0	0	0	0	0
180°	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	17.17	18.69	17.65	19.16	19.66	18.75	20.28	19.23	20.74	21.24
	3H	18.82	20.21	19.31	20.68	21.22	21.06	22.45	21.55	22.93	23.46
	4H	19.39	20.71	19.90	21.20	21.75	22.13	23.45	22.64	23.94	24.49
	6H	19.77	21.00	20.30	21.50	22.07	23.18	24.40	23.70	24.91	25.48
	8H	19.88	21.05	20.41	21.58	22.16	23.69	24.87	24.23	25.40	25.97
	12H	19.94	21.07	20.48	21.59	22.20	24.24	25.37	24.79	25.89	26.50
4H	2H	18.03	19.34	18.54	19.84	20.39	19.25	20.57	19.76	21.06	21.61
	3H	19.91	21.03	20.44	21.57	22.14	21.78	22.91	22.31	23.44	24.01
	4H	20.62	21.65	21.17	22.20	22.80	23.01	24.04	23.55	24.58	25.19
	6H	21.14	22.04	21.70	22.62	23.24	24.23	25.14	24.80	25.71	26.33
	8H	21.30	22.15	21.87	22.72	23.35	24.84	25.69	25.41	26.26	26.89
	12H	21.40	22.17	21.99	22.77	23.41	25.50	26.27	26.09	26.87	27.51
8H	4H	21.21	22.06	21.77	22.63	23.26	23.26	24.11	23.83	24.69	25.32
	6H	21.90	22.62	22.50	23.23	23.87	24.65	25.37	25.25	25.98	26.62
	8H	22.15	22.80	22.76	23.42	24.07	25.39	26.03	26.00	26.66	27.31
	12H	22.34	22.92	22.95	23.53	24.24	26.21	26.79	26.83	27.40	28.12
12H	4H	21.34	22.11	21.93	22.71	23.35	23.28	24.05	23.87	24.65	25.29
	6H	22.11	22.76	22.72	23.38	24.03	24.70	25.35	25.31	25.97	26.62
	8H	22.45	23.03	23.06	23.64	24.36	25.50	26.08	26.12	26.69	27.41