

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: G3-1802-639-15

Luminaire Tested: S123DRP-S775D835-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: G3-1802-639-15  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DRP-S775D835-X4F0-XX-UDD-D-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

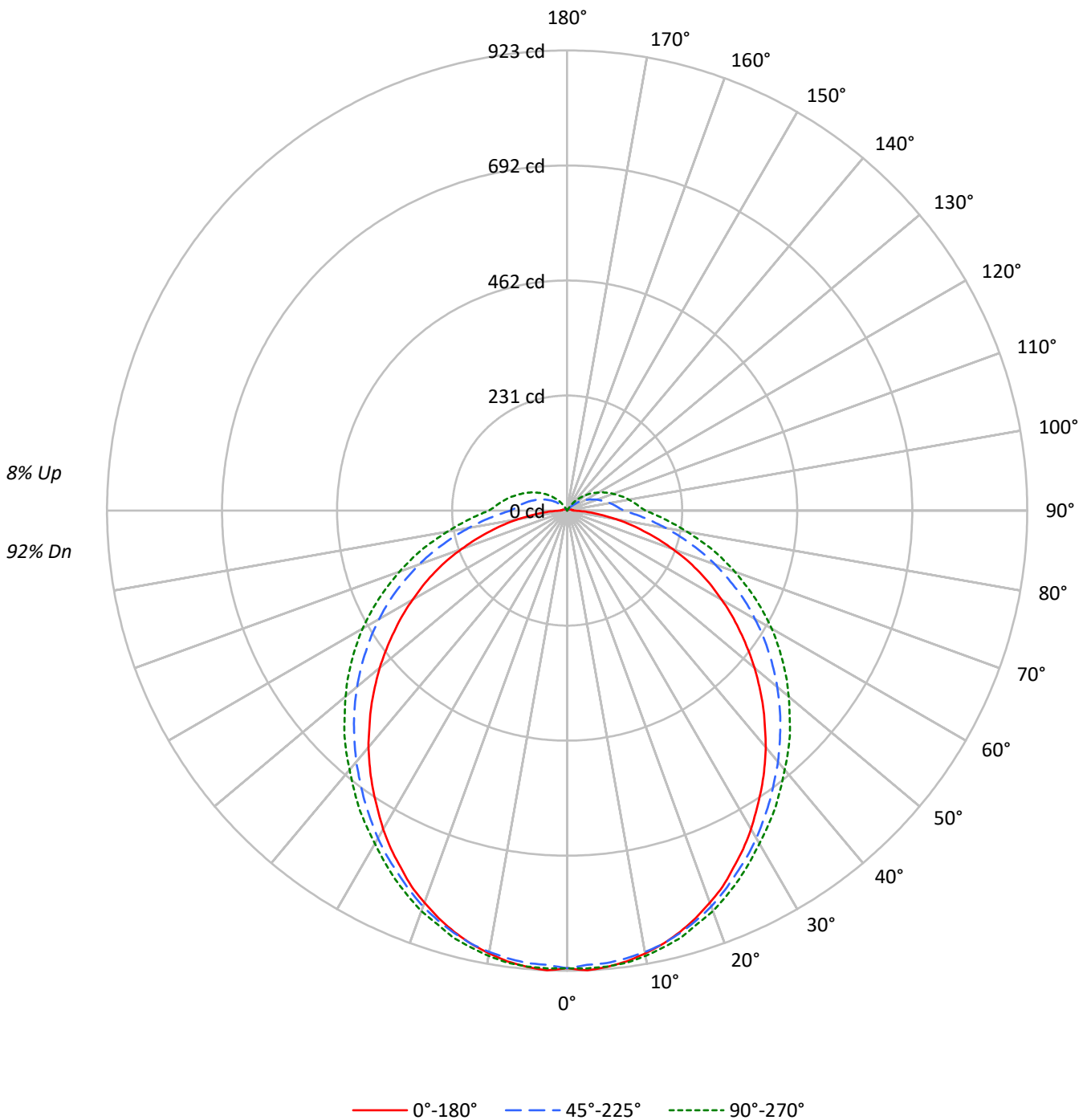
Lumens per Lamp: N/A  
Luminaire Lumens: 3085.2 lumens  
Efficiency: N/A  
Efficacy: 116.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.25 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')  
CIE Type: Direct

Input Watts (W): 26.4  
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	113	113	113	113	106	106	106	100	100	100	94	94	94	92
1	105	100	95	90	102	97	92	88	91	87	84	85	82	80	80	78	76	73
2	95	86	79	72	92	83	77	71	79	73	68	74	69	65	70	66	63	60
3	86	75	67	60	83	73	65	59	69	62	56	65	59	54	61	56	52	50
4	79	66	57	50	76	64	56	49	61	54	48	57	51	46	54	49	45	42
5	72	59	50	43	70	58	49	42	54	47	41	52	45	40	49	43	39	36
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	38	34	32
7	62	48	39	33	60	47	38	32	45	37	32	42	36	31	40	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	28	24	22
10	50	37	29	24	49	36	29	24	35	28	23	33	27	23	32	26	22	20

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

	0°	45°	90°
0°	11127	11127	11127
5°	11161	10827	10825
10°	11060	10558	10491
15°	10917	10257	10131
20°	10713	9917	9740
25°	10461	9529	9331
30°	10203	9180	8919
35°	9913	8811	8586
40°	9636	8475	8232
45°	9330	8151	7945
50°	9028	7830	7631
55°	8693	7501	7344
60°	8367	7166	7050
65°	8033	6808	6704
70°	7529	6406	6347
75°	6893	5946	5981
80°	6159	5487	5562
85°	5470	5140	5287

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9330 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.1	2.8
10°-20°	248.3	8.0
20°-30°	371.2	12.0
30°-40°	443.2	14.4
40°-50°	463.8	15.0
50°-60°	435.2	14.1
60°-70°	363.5	11.8
70°-80°	259.9	8.4
80°-90°	154.7	5.0
90°-100°	97.2	3.2
100°-110°	71.4	2.3
110°-120°	47.7	1.5
120°-130°	27.2	0.9
130°-140°	12.2	0.4
140°-150°	2.5	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	706.6	22.9
0°-40°	1149.8	37.3
0°-60°	2048.8	66.4
0°-90°	2826.9	91.6
90°-120°	216.3	7.0
90°-150°	258.3	8.4
90°-180°	258.0	8.4
0°-180°	3085.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	918	918	918	918	918	
5°	919	917	911	919	918	87
15°	875	878	877	887	886	246
25°	790	800	803	816	816	364
35°	680	696	709	724	728	425
45°	556	580	605	624	632	429
55°	424	457	493	520	528	380
65°	293	332	376	406	416	290
75°	159	206	256	289	301	170
85°	49	99	152	186	196	50
90°	13	62	113	147	157	9
95°	11	50	99	130	140	9
105°	8	32	75	103	112	8
115°	5	17	53	77	85	5
125°	3	3	32	53	60	3
135°	2	1	12	30	35	2
145°	1	0	0	8	12	0
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°	918	918	918	918	918
2.5°	923	920	912	920	919
5°	919	917	911	919	918
7.5°	912	912	906	916	915
10°	902	904	899	909	907
12.5°	890	893	890	899	897
15°	875	878	877	887	886
17.5°	857	863	862	871	869
20°	837	843	845	854	855
22.5°	816	822	825	837	836
25°	790	800	803	816	816
27.5°	765	776	782	793	794
30°	738	751	759	771	771
32.5°	708	723	734	747	750
35°	680	696	709	724	728
37.5°	650	668	683	700	703
40°	620	638	658	675	679
42.5°	587	610	631	650	656
45°	556	580	605	624	632
47.5°	523	550	578	599	605
50°	491	519	550	573	580
52.5°	457	487	522	546	555
55°	424	457	493	520	528
57.5°	392	426	465	492	501
60°	358	394	435	463	474
62.5°	326	363	407	435	445
65°	293	332	376	406	416
67.5°	260	301	345	378	386
70°	225	268	316	348	358
72.5°	193	236	286	319	329
75°	159	206	256	289	301
77.5°	130	177	227	262	271
80°	99	148	200	234	244
82.5°	72	122	175	209	219
85°	49	99	152	186	196
87.5°	30	80	131	165	175
90°	13	62	113	147	157
92.5°	12	55	105	138	147
95°	11	50	99	130	140
97.5°	10	46	93	123	133
100°	9	41	87	116	126
102.5°	8	36	81	109	119
105°	8	32	75	103	112
107.5°	7	28	69	96	105
110°	6	24	64	90	98



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	6	20	58	83	92
115°	5	17	53	77	85
117.5°	5	13	47	71	79
120°	4	9	42	65	72
122.5°	4	6	37	59	66
125°	3	3	32	53	60
127.5°	3	2	27	47	54
130°	3	2	22	41	47
132.5°	2	2	17	35	42
135°	2	1	12	30	35
137.5°	2	1	8	24	29
140°	1	1	4	19	24
142.5°	1	0	0	13	18
145°	1	0	0	8	12
147.5°	0	0	0	3	7
150°	0	0	0	0	2
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	17.42	18.93	17.91	19.41	19.92	19.42	20.92	19.91	21.41	21.92
	3H	18.98	20.35	19.48	20.84	21.40	21.80	23.17	22.30	23.66	24.22
	4H	19.50	20.80	20.02	21.31	21.88	22.91	24.21	23.43	24.72	25.29
	6H	19.85	21.06	20.38	21.58	22.16	24.02	25.23	24.55	25.75	26.34
	8H	19.93	21.09	20.48	21.64	22.23	24.57	25.73	25.12	26.28	26.87
	12H	19.98	21.09	20.54	21.63	22.25	25.18	26.29	25.73	26.83	27.45
4H	2H	18.33	19.63	18.85	20.14	20.71	19.88	21.18	20.40	21.69	22.26
	3H	20.13	21.24	20.67	21.79	22.38	22.47	23.58	23.01	24.13	24.72
	4H	20.80	21.81	21.35	22.37	22.99	23.74	24.75	24.30	25.31	25.94
	6H	21.27	22.16	21.85	22.75	23.39	25.02	25.92	25.60	26.50	27.14
	8H	21.41	22.25	21.99	22.83	23.48	25.67	26.51	26.26	27.10	27.75
	12H	21.49	22.26	22.09	22.87	23.52	26.39	27.15	26.99	27.77	28.42
8H	4H	21.43	22.27	22.01	22.86	23.51	23.97	24.81	24.55	25.39	26.04
	6H	22.09	22.80	22.70	23.42	24.08	25.41	26.12	26.02	26.74	27.40
	8H	22.32	22.96	22.94	23.60	24.26	26.18	26.82	26.81	27.46	28.13
	12H	22.49	23.06	23.12	23.69	24.42	27.07	27.64	27.69	28.26	29.00
12H	4H	21.58	22.35	22.19	22.96	23.62	23.98	24.74	24.58	25.35	26.01
	6H	22.33	22.97	22.95	23.61	24.27	25.45	26.09	26.07	26.73	27.39
	8H	22.65	23.22	23.28	23.85	24.58	26.29	26.86	26.92	27.49	28.22