

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: G3-1802-639-11

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: G3-1802-639-11  
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-F-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

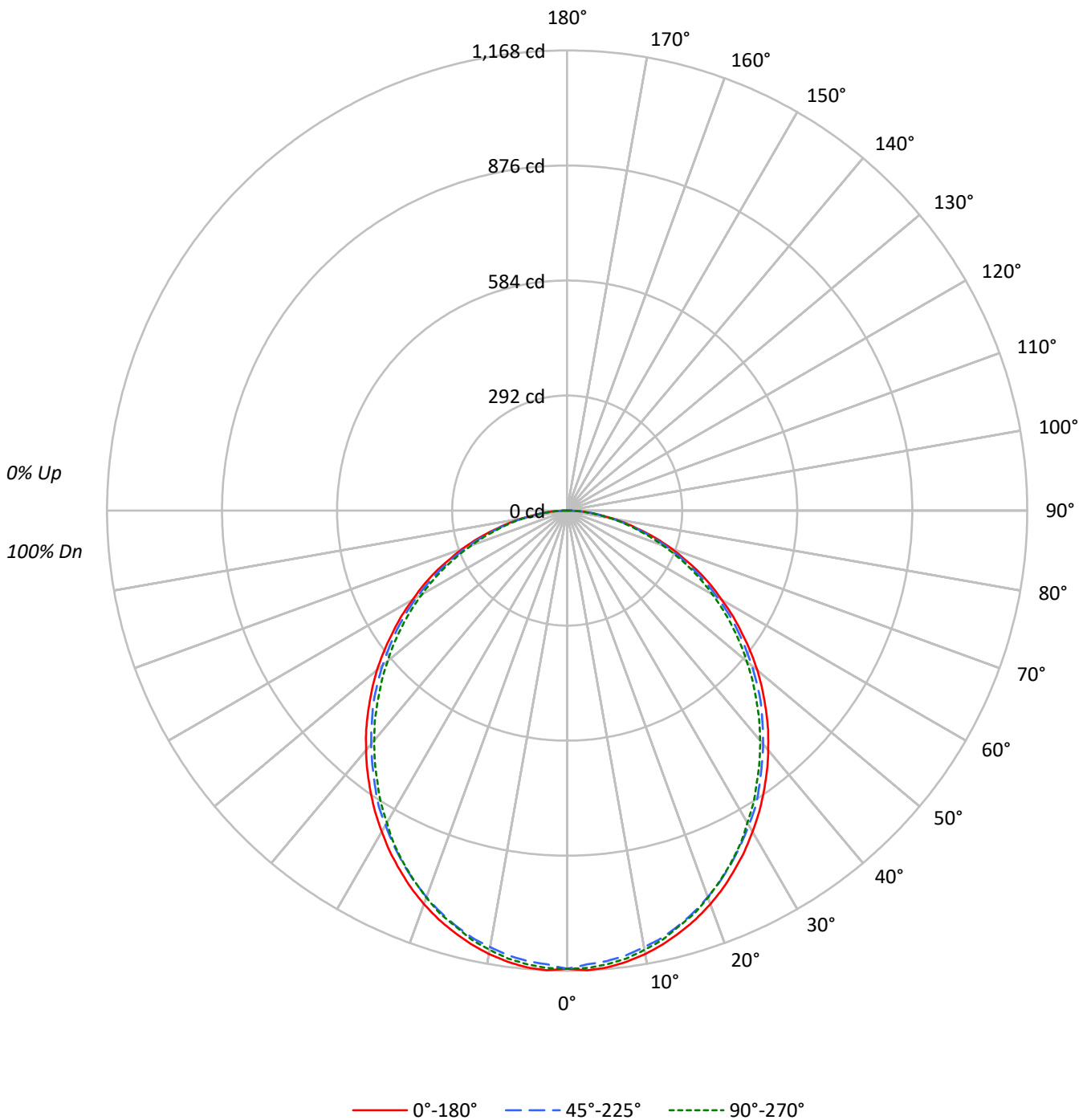
Lumens per Lamp: N/A  
Luminaire Lumens: 3026.8 lumens  
Efficiency: N/A  
Efficacy: 114.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.3  
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')  
CIE Type: Direct

Input Watts (W): 26.4  
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	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	94	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	72	70																												
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	59																												
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51																												
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	57	51	46	44																												
6	71	57	49	42	69	56	48	42	55	47	42	53	46	41	51	46	41	39																												
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34																												
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31																												
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28																												
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25																												

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

	0°	45°	90°
0°	14097	14097	14097
5°	14163	13968	14066
10°	14068	13847	13933
15°	13904	13691	13716
20°	13712	13467	13480
25°	13455	13200	13174
30°	13171	12905	12807
35°	12874	12592	12430
40°	12564	12247	12057
45°	12222	11931	11639
50°	11880	11541	11220
55°	11433	11137	10799
60°	10982	10667	10327
65°	10583	10153	9838
70°	9994	9569	9144
75°	9132	8805	8430
80°	8237	7888	7818
85°	7232	6954	6676

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 12222 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	109.6	3.6
10°-20°	309.6	10.2
20°-30°	457.2	15.1
30°-40°	534.0	17.6
40°-50°	536.8	17.7
50°-60°	471.6	15.6
60°-70°	351.2	11.6
70°-80°	199.9	6.6
80°-90°	56.8	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°	876.5	29.0
0°-40°	1410.5	46.6
0°-60°	2418.9	79.9
0°-90°	3026.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3026.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1163	1163	1163	1163	1163	
5°	1164	1159	1148	1158	1156	110
15°	1108	1104	1091	1099	1093	312
25°	1006	1000	987	988	985	463
35°	870	864	851	845	840	544
45°	713	709	696	684	679	550
55°	541	540	527	516	511	485
65°	369	364	354	346	343	364
75°	195	191	188	183	180	208
85°	52	50	50	48	48	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1163	1163	1163	1163	1163
2.5°	1168	1164	1153	1163	1162
5°	1164	1159	1148	1158	1156
7.5°	1155	1150	1139	1148	1147
10°	1143	1138	1125	1134	1132
12.5°	1127	1123	1111	1117	1116
15°	1108	1104	1091	1099	1093
17.5°	1087	1082	1069	1075	1073
20°	1063	1057	1044	1048	1045
22.5°	1036	1030	1017	1020	1016
25°	1006	1000	987	988	985
27.5°	975	969	955	956	953
30°	941	936	922	922	915
32.5°	907	900	890	883	880
35°	870	864	851	845	840
37.5°	833	825	812	805	802
40°	794	788	774	766	762
42.5°	755	748	734	726	722
45°	713	709	696	684	679
47.5°	672	666	654	642	638
50°	630	625	612	601	595
52.5°	586	583	569	560	554
55°	541	540	527	516	511
57.5°	499	495	485	475	469
60°	453	452	440	431	426
62.5°	412	409	397	388	385
65°	369	364	354	346	343
67.5°	323	319	311	304	300
70°	282	276	270	263	258
72.5°	239	235	228	222	220
75°	195	191	188	183	180
77.5°	156	154	150	146	146
80°	118	115	113	112	112
82.5°	81	81	81	79	78
85°	52	50	50	48	48
87.5°	26	23	22	21	21
90°	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	20.55	22.17	20.92	22.48	22.80	20.24	21.85	20.60	22.17	22.48
	3H	22.32	23.78	22.70	24.11	24.47	21.95	23.41	22.33	23.74	24.10
	4H	22.98	24.36	23.38	24.70	25.08	22.59	23.97	22.99	24.31	24.69
	6H	23.47	24.74	23.88	25.11	25.50	23.08	24.35	23.49	24.72	25.11
	8H	23.62	24.84	24.04	25.23	25.63	23.24	24.45	23.66	24.84	25.24
	12H	23.73	24.89	24.16	25.28	25.70	23.34	24.51	23.77	24.89	25.32
4H	2H	21.13	22.51	21.53	22.85	23.23	20.88	22.26	21.28	22.60	22.98
	3H	23.12	24.28	23.53	24.67	25.07	22.82	23.97	23.23	24.37	24.77
	4H	23.91	24.95	24.34	25.36	25.80	23.58	24.62	24.01	25.04	25.47
	6H	24.53	25.44	24.98	25.88	26.33	24.19	25.10	24.65	25.54	26.00
	8H	24.73	25.58	25.19	26.02	26.49	24.40	25.25	24.86	25.69	26.16
	12H	24.88	25.65	25.36	26.12	26.59	24.55	25.31	25.03	25.79	26.26
8H	4H	24.19	25.05	24.65	25.49	25.95	23.90	24.75	24.36	25.20	25.66
	6H	24.93	25.64	25.42	26.13	26.60	24.64	25.35	25.13	25.83	26.31
	8H	25.20	25.84	25.71	26.35	26.83	24.92	25.55	25.43	26.06	26.55
	12H	25.43	25.99	25.94	26.48	27.05	25.14	25.70	25.65	26.19	26.75
12H	4H	24.22	24.99	24.70	25.46	25.93	23.94	24.70	24.42	25.18	25.65
	6H	24.98	25.62	25.49	26.12	26.61	24.70	25.33	25.21	25.84	26.33
	8H	25.31	25.88	25.82	26.37	26.93	25.04	25.60	25.54	26.09	26.65