

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: P243289

Luminaire Tested: S123DRP-H775D830-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243289  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-49)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DRP-H775D830-X4F0-XX-UDD-F-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

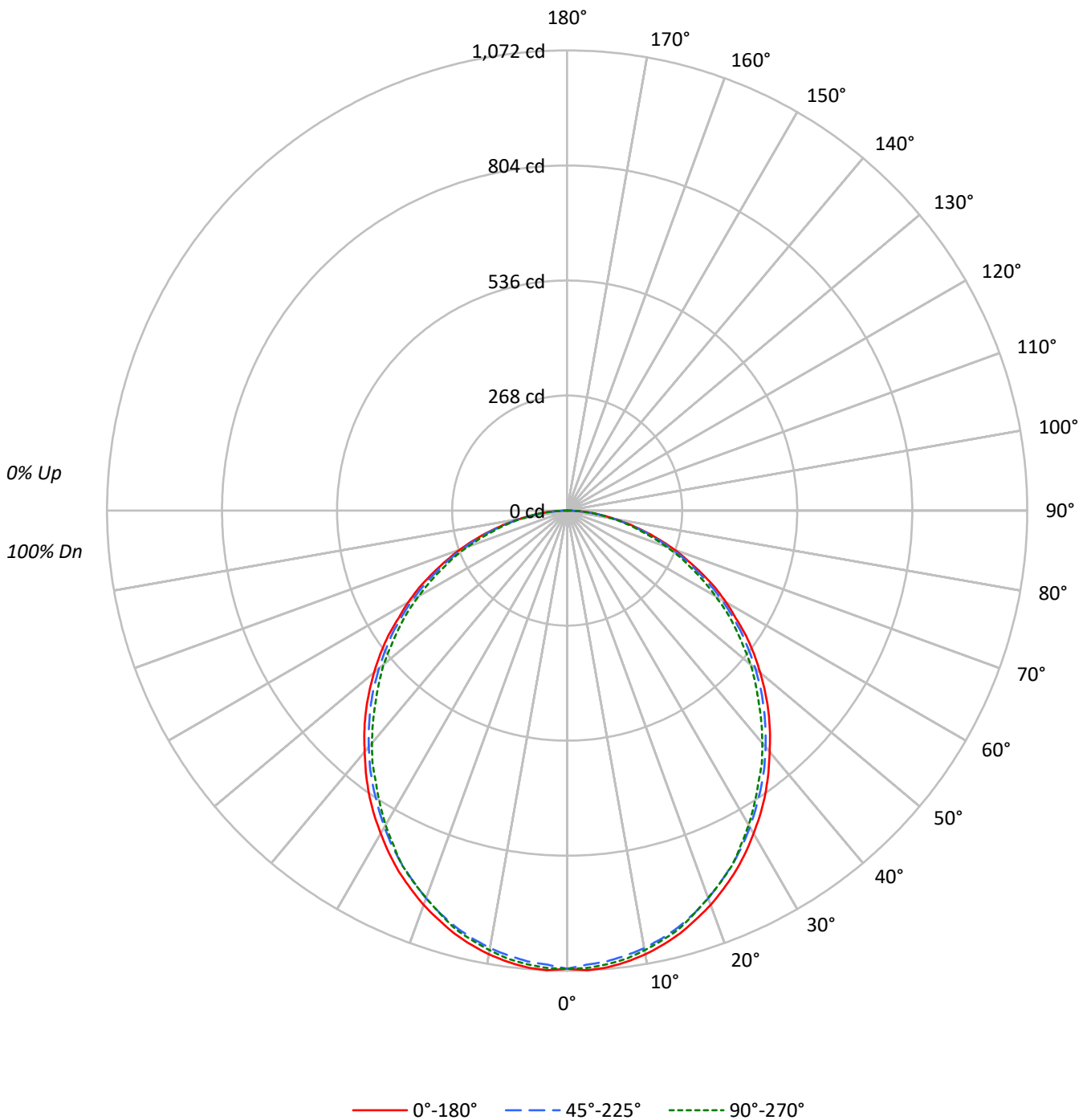
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2823.9 lumens  
Efficiency: N/A  
Efficacy: 119.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.23' 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	94	97	94	91	94	91	89	90	88	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59
4	83	71	62	55	80	70	61	55	67	60	54	65	59	54	63	57	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

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

	0°	45°	90°
0°	12939	12939	12939
5°	13000	12828	12913
10°	12922	12738	12803
15°	12788	12600	12655
20°	12611	12396	12384
25°	12406	12171	12181
30°	12157	11924	11837
35°	11915	11654	11486
40°	11613	11377	11195
45°	11374	11103	10817
50°	11069	10786	10520
55°	10750	10471	10116
60°	10368	10092	9685
65°	9921	9617	9212
70°	9420	9108	8732
75°	8739	8491	8037
80°	7860	7678	7434
85°	7343	6982	6731

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 11374 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.7	3.6
10°-20°	284.8	10.1
20°-30°	421.7	14.9
30°-40°	494.5	17.5
40°-50°	499.9	17.7
50°-60°	442.1	15.7
60°-70°	332.1	11.8
70°-80°	191.4	6.8
80°-90°	56.8	2.0
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°	807.2	28.6
0°-40°	1301.7	46.1
0°-60°	2243.7	79.5
0°-90°	2823.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2823.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1068	1068	1068	1068	1068	
5°	1068	1064	1054	1063	1061	101
15°	1019	1014	1004	1011	1008	287
25°	928	920	910	914	911	427
35°	805	798	788	785	776	503
45°	664	658	648	639	631	511
55°	509	505	496	486	479	454
65°	346	343	335	326	321	343
75°	187	185	181	176	172	198
85°	53	52	50	49	48	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1067.5	1067.5	1067.5	1067.5	1067.5
2.5°	1071.9	1068.4	1058.7	1068.4	1066.6
5°	1068.4	1064.0	1054.3	1063.1	1061.3
7.5°	1060.4	1056.0	1045.5	1055.2	1053.4
10°	1049.9	1045.5	1034.9	1042.8	1040.2
12.5°	1035.8	1031.4	1020.8	1027.0	1025.2
15°	1019.1	1013.8	1004.1	1011.2	1008.5
17.5°	998.8	994.4	983.9	992.7	984.8
20°	977.7	973.3	961.0	968.9	960.1
22.5°	953.1	947.8	935.5	940.8	936.4
25°	927.6	920.5	910.0	914.4	910.8
27.5°	899.4	892.4	881.8	883.6	877.4
30°	868.6	862.4	851.9	853.6	845.7
32.5°	837.8	832.5	819.3	819.3	811.4
35°	805.2	798.2	787.6	785.0	776.2
37.5°	770.0	763.9	754.2	749.8	744.5
40°	733.9	730.4	719.0	713.7	707.5
42.5°	699.6	693.5	683.8	676.7	669.7
45°	663.5	658.3	647.7	638.9	631.0
47.5°	625.7	621.3	610.7	601.1	594.9
50°	587.0	583.5	572.0	561.5	557.9
52.5°	549.1	544.7	533.3	523.6	516.6
55°	508.7	505.1	495.5	485.8	478.7
57.5°	465.5	465.5	455.0	446.2	440.9
60°	427.7	423.3	416.3	406.6	399.5
62.5°	388.1	385.5	375.8	366.1	360.8
65°	345.9	343.2	335.3	326.5	321.2
67.5°	304.5	303.6	296.6	289.5	286.0
70°	265.8	264.0	257.0	249.9	246.4
72.5°	226.2	224.4	218.2	212.1	207.7
75°	186.6	184.8	181.3	176.0	171.6
77.5°	147.8	147.8	143.4	141.7	139.9
80°	112.6	111.8	110.0	108.2	106.5
82.5°	81.0	80.1	78.3	77.4	77.4
85°	52.8	51.9	50.2	49.3	48.4
87.5°	27.3	25.5	24.6	22.9	22.0
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	20.35	21.97	20.71	22.29	22.60	20.04	21.66	20.40	21.98	22.29
	3H	22.14	23.61	22.52	23.94	24.30	21.79	23.26	22.17	23.59	23.95
	4H	22.82	24.21	23.22	24.55	24.93	22.44	23.82	22.84	24.17	24.55
	6H	23.32	24.60	23.73	24.97	25.36	22.94	24.22	23.35	24.59	24.98
	8H	23.49	24.71	23.91	25.10	25.50	23.11	24.34	23.54	24.73	25.13
	12H	23.61	24.78	24.04	25.17	25.59	23.23	24.41	23.66	24.79	25.22
4H	2H	20.94	22.32	21.33	22.67	23.04	20.69	22.08	21.09	22.42	22.80
	3H	22.96	24.12	23.37	24.52	24.92	22.67	23.83	23.08	24.22	24.62
	4H	23.77	24.82	24.20	25.24	25.67	23.45	24.50	23.88	24.91	25.34
	6H	24.40	25.32	24.86	25.76	26.22	24.07	24.99	24.53	25.43	25.89
	8H	24.62	25.48	25.08	25.92	26.39	24.29	25.16	24.76	25.60	26.06
	12H	24.79	25.57	25.27	26.04	26.51	24.46	25.24	24.94	25.71	26.18
8H	4H	24.07	24.93	24.53	25.37	25.83	23.78	24.64	24.24	25.08	25.55
	6H	24.82	25.54	25.31	26.02	26.50	24.53	25.25	25.03	25.74	26.21
	8H	25.12	25.76	25.63	26.27	26.75	24.83	25.47	25.34	25.98	26.47
	12H	25.38	25.94	25.88	26.43	27.00	25.08	25.65	25.59	26.14	26.70
12H	4H	24.10	24.87	24.58	25.35	25.82	23.82	24.59	24.30	25.07	25.54
	6H	24.88	25.52	25.38	26.03	26.51	24.60	25.24	25.11	25.75	26.24
	8H	25.23	25.80	25.74	26.29	26.85	24.96	25.53	25.47	26.02	26.58