

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: P242498

Luminaire Tested: S123DRP-S775D830-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242498
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-15)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-S775D830-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

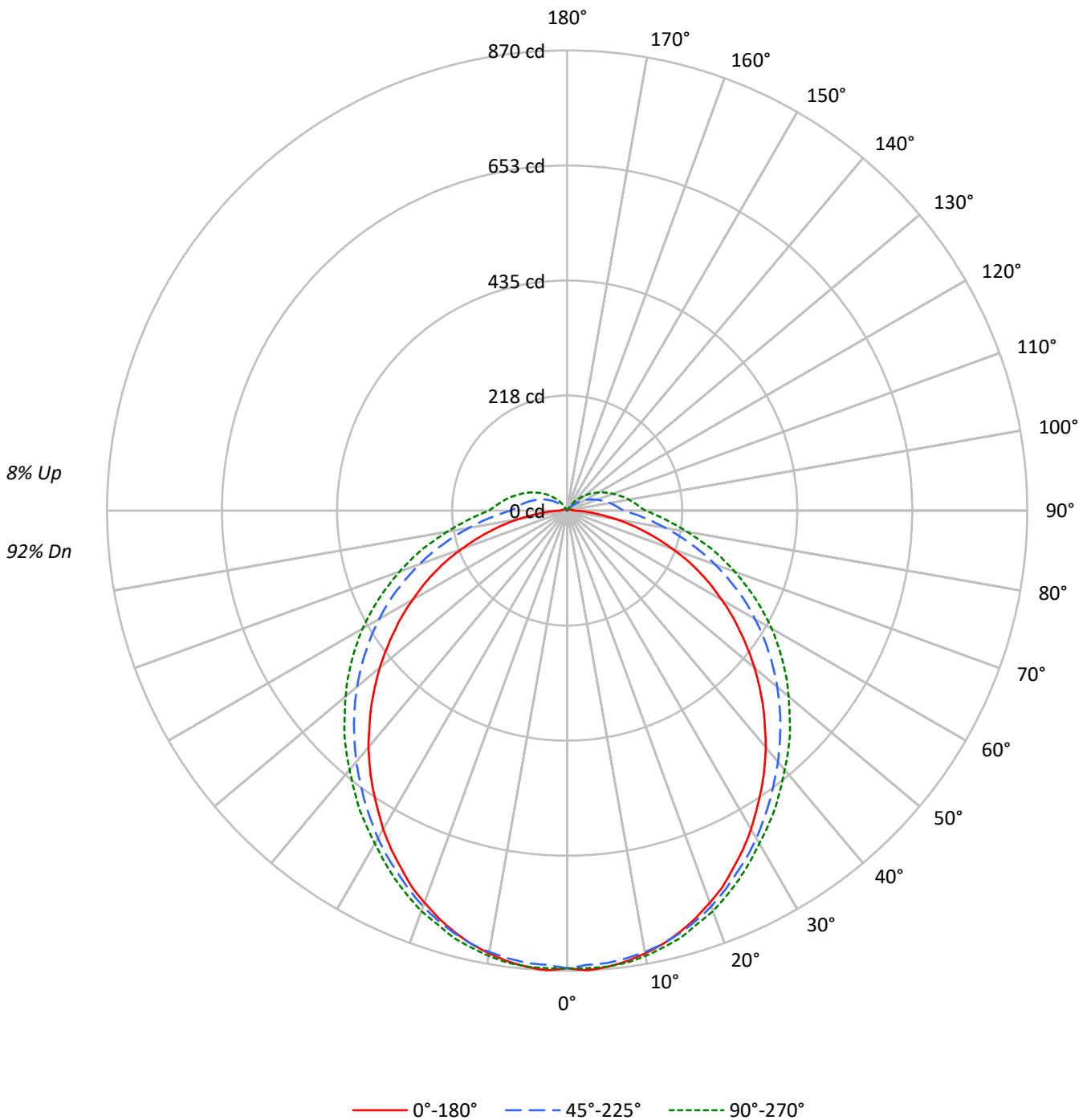
Lumens per Lamp: N/A
Luminaire Lumens: 2907.9 lumens
Efficiency: N/A
Efficacy: 110.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.25 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (A_{in}): 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°	10488	10488	10488
5°	10520	10205	10204
10°	10425	9951	9888
15°	10290	9667	9549
20°	10097	9346	9180
25°	9860	8982	8795
30°	9616	8653	8406
35°	9343	8305	8093
40°	9083	7988	7759
45°	8795	7682	7489
50°	8509	7380	7192
55°	8193	7071	6923
60°	7886	6754	6646
65°	7573	6417	6319
70°	7097	6037	5982
75°	6499	5605	5637
80°	5805	5171	5243
85°	5158	4846	4982

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8795 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.1	2.8
10°-20°	234.0	8.0
20°-30°	349.9	12.0
30°-40°	417.8	14.4
40°-50°	437.1	15.0
50°-60°	410.2	14.1
60°-70°	342.6	11.8
70°-80°	245.0	8.4
80°-90°	145.8	5.0
90°-100°	91.6	3.2
100°-110°	67.3	2.3
110°-120°	45.0	1.5
120°-130°	25.7	0.9
130°-140°	11.5	0.4
140°-150°	2.4	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	666.0	22.9
0°-40°	1083.8	37.3
0°-60°	1931.1	66.4
0°-90°	2664.5	91.6
90°-120°	203.9	7.0
90°-150°	243.5	8.4
90°-180°	243.0	8.4
0°-180°	2907.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	865	865	865	865	865	
5°	866	864	859	866	865	82
15°	825	828	827	836	835	232
25°	745	754	757	769	769	343
35°	641	656	668	682	686	401
45°	524	547	570	588	596	404
55°	400	431	465	490	498	358
65°	276	313	354	383	392	273
75°	150	194	241	272	284	160
85°	46	93	143	175	185	48
90°	12	58	106	139	148	9
95°	10	47	93	122	132	8
105°	8	30	71	97	106	8
115°	5	16	50	73	80	5
125°	3	3	30	50	57	3
135°	2	1	11	28	33	1
145°	1	0	0	8	11	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°	865.3	865.3	865.3	865.3	865.3
2.5°	870.0	867.1	859.6	867.1	866.2
5°	866.2	864.3	858.7	866.2	865.3
7.5°	859.6	859.6	853.9	863.4	862.4
10°	850.2	852.1	847.3	856.8	854.9
12.5°	838.9	841.7	838.9	847.3	845.5
15°	824.7	827.6	826.6	836.0	835.1
17.5°	807.8	813.4	812.5	821.0	819.1
20°	788.9	794.6	796.4	804.9	805.9
22.5°	769.1	774.8	777.6	788.9	788.0
25°	744.6	754.0	756.9	769.1	769.1
27.5°	721.0	731.4	737.1	747.4	748.4
30°	695.6	707.8	715.4	726.7	726.7
32.5°	667.3	681.5	691.8	704.1	706.9
35°	640.9	656.0	668.3	682.4	686.2
37.5°	612.7	629.6	643.8	659.8	662.6
40°	584.4	601.3	620.2	636.2	640.0
42.5°	553.3	575.0	594.7	612.7	618.3
45°	524.1	546.7	570.2	588.1	595.7
47.5°	492.9	518.4	544.8	564.6	570.2
50°	462.8	489.2	518.4	540.1	546.7
52.5°	430.7	459.0	492.0	514.6	523.1
55°	399.6	430.7	464.7	490.1	497.7
57.5°	369.5	401.5	438.3	463.7	472.2
60°	337.4	371.4	410.0	436.4	446.8
62.5°	307.3	342.1	383.6	410.0	419.4
65°	276.2	312.9	354.4	382.7	392.1
67.5°	245.1	283.7	325.2	356.3	363.8
70°	212.1	252.6	297.8	328.0	337.4
72.5°	181.9	222.4	269.6	300.7	310.1
75°	149.9	194.2	241.3	272.4	283.7
77.5°	122.5	166.8	214.0	246.9	255.4
80°	93.3	139.5	188.5	220.6	230.0
82.5°	67.9	115.0	164.9	197.0	206.4
85°	46.2	93.3	143.3	175.3	184.7
87.5°	28.3	75.4	123.5	155.5	164.9
90°	12.3	58.4	106.5	138.6	148.0
92.5°	11.3	51.8	99.0	130.1	138.6
95°	10.4	47.1	93.3	122.5	132.0
97.5°	9.4	43.4	87.7	115.9	125.4
100°	8.5	38.6	82.0	109.3	118.8
102.5°	7.5	33.9	76.3	102.7	112.2
105°	7.5	30.2	70.7	97.1	105.6
107.5°	6.6	26.4	65.0	90.5	99.0
110°	5.7	22.6	60.3	84.8	92.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	5.7	18.9	54.7	78.2	86.7
115°	4.7	16.0	50.0	72.6	80.1
117.5°	4.7	12.3	44.3	66.9	74.5
120°	3.8	8.5	39.6	61.3	67.9
122.5°	3.8	5.7	34.9	55.6	62.2
125°	2.8	2.8	30.2	50.0	56.6
127.5°	2.8	1.9	25.4	44.3	50.9
130°	2.8	1.9	20.7	38.6	44.3
132.5°	1.9	1.9	16.0	33.0	39.6
135°	1.9	0.9	11.3	28.3	33.0
137.5°	1.9	0.9	7.5	22.6	27.3
140°	0.9	0.9	3.8	17.9	22.6
142.5°	0.9	0.0	0.0	12.3	17.0
145°	0.9	0.0	0.0	7.5	11.3
147.5°	0.0	0.0	0.0	2.8	6.6
150°	0.0	0.0	0.0	0.0	1.9
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	17.22	18.72	17.71	19.20	19.72	19.21	20.72	19.70	21.20	21.72
	3H	18.77	20.15	19.28	20.64	21.19	21.59	22.96	22.09	23.45	24.01
	4H	19.30	20.60	19.82	21.10	21.67	22.71	24.01	23.23	24.51	25.08
	6H	19.64	20.85	20.18	21.37	21.96	23.81	25.02	24.35	25.54	26.13
	8H	19.73	20.89	20.28	21.43	22.02	24.37	25.53	24.92	26.07	26.66
	12H	19.78	20.89	20.33	21.43	22.05	24.97	26.09	25.53	26.62	27.25
4H	2H	18.12	19.42	18.65	19.93	20.50	19.67	20.97	20.20	21.48	22.05
	3H	19.93	21.03	20.46	21.58	22.18	22.27	23.37	22.80	23.92	24.52
	4H	20.59	21.60	21.15	22.16	22.79	23.53	24.55	24.09	25.11	25.73
	6H	21.06	21.96	21.64	22.54	23.18	24.82	25.71	25.39	26.30	26.93
	8H	21.20	22.04	21.78	22.63	23.28	25.47	26.31	26.05	26.89	27.54
	12H	21.29	22.05	21.89	22.66	23.32	26.18	26.95	26.79	27.56	28.22
8H	4H	21.22	22.07	21.81	22.65	23.30	23.76	24.60	24.34	25.19	25.84
	6H	21.88	22.59	22.49	23.22	23.87	25.20	25.91	25.81	26.54	27.19
	8H	22.11	22.76	22.74	23.39	24.06	25.98	26.62	26.60	27.26	27.92
	12H	22.28	22.86	22.91	23.48	24.22	26.86	27.43	27.49	28.06	28.79
12H	4H	21.38	22.14	21.98	22.75	23.41	23.77	24.53	24.37	25.15	25.80
	6H	22.12	22.76	22.75	23.40	24.07	25.24	25.88	25.87	26.52	27.19
	8H	22.45	23.02	23.07	23.64	24.38	26.08	26.66	26.71	27.28	28.01