

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: P243313

Luminaire Tested: S123DRP-H775D940-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243313
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-H775D940-X4F0-XX-UDD-F-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

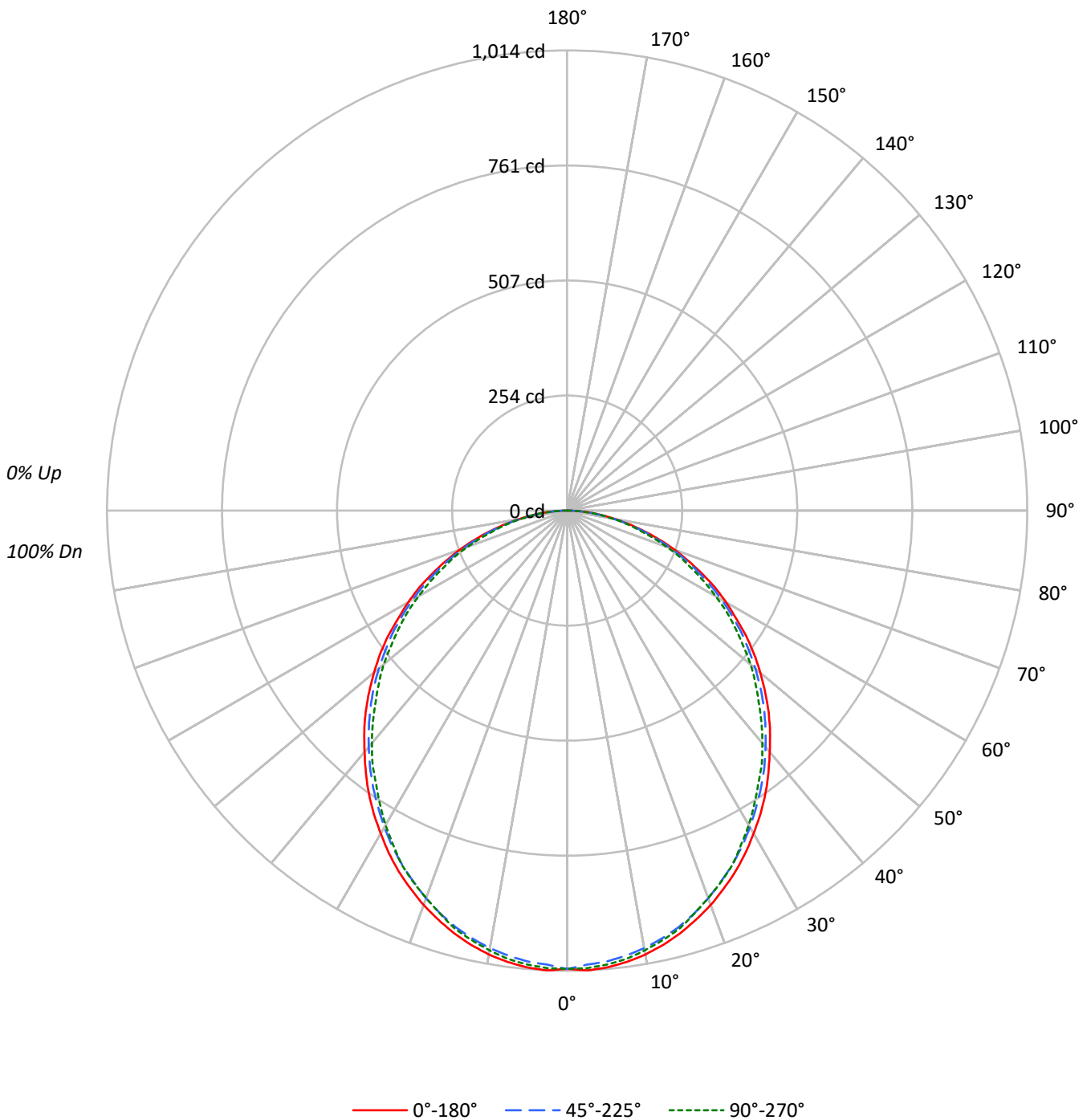
Lumens per Lamp: N/A
Luminaire Lumens: 2671.6 lumens
Efficiency: N/A
Efficacy: 113.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84				84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70				70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59				59
4	83	71	62	55	80	70	61	55	67	60	54	65	59	54	63	57	53	51				51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44				44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39				39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34				34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30				30
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	29	27				27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25				25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12241	12241	12241
5°	12298	12136	12217
10°	12226	12051	12113
15°	12098	11921	11973
20°	11932	11728	11716
25°	11736	11514	11525
30°	11501	11280	11199
35°	11273	11027	10866
40°	10988	10763	10592
45°	10762	10505	10234
50°	10471	10206	9955
55°	10169	9905	9571
60°	9808	9547	9164
65°	9385	9098	8716
70°	8910	8615	8261
75°	8266	8032	7606
80°	7441	7267	7029
85°	6954	6606	6370

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10762 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.3	3.6
10°-20°	269.4	10.1
20°-30°	398.9	14.9
30°-40°	467.8	17.5
40°-50°	473.0	17.7
50°-60°	418.3	15.7
60°-70°	314.2	11.8
70°-80°	181.1	6.8
80°-90°	53.7	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°	763.6	28.6
0°-40°	1231.5	46.1
0°-60°	2122.7	79.5
0°-90°	2671.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2671.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1010	1010	1010	1010	1010	
5°	1011	1007	997	1006	1004	96
15°	964	959	950	957	954	272
25°	878	871	861	865	862	404
35°	762	755	745	743	734	476
45°	628	623	613	604	597	484
55°	481	478	469	460	453	430
65°	327	325	317	309	304	324
75°	176	175	172	166	162	187
85°	50	49	48	47	46	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1009.9	1009.9	1009.9	1009.9	1009.9
2.5°	1014.1	1010.7	1001.6	1010.7	1009.1
5°	1010.7	1006.6	997.4	1005.7	1004.1
7.5°	1003.3	999.1	989.1	998.3	996.6
10°	993.3	989.1	979.1	986.6	984.1
12.5°	979.9	975.8	965.8	971.6	969.9
15°	964.1	959.1	950.0	956.6	954.1
17.5°	945.0	940.8	930.8	939.1	931.6
20°	925.0	920.8	909.2	916.7	908.3
22.5°	901.7	896.7	885.0	890.0	885.9
25°	877.5	870.9	860.9	865.0	861.7
27.5°	850.9	844.2	834.2	835.9	830.1
30°	821.7	815.9	805.9	807.6	800.1
32.5°	792.6	787.6	775.1	775.1	767.6
35°	761.8	755.1	745.2	742.7	734.3
37.5°	728.5	722.7	713.5	709.4	704.4
40°	694.4	691.0	680.2	675.2	669.4
42.5°	661.9	656.1	646.9	640.2	633.6
45°	627.8	622.8	612.8	604.4	597.0
47.5°	592.0	587.8	577.8	568.6	562.8
50°	555.3	552.0	541.2	531.2	527.9
52.5°	519.5	515.4	504.5	495.4	488.7
55°	481.2	477.9	468.7	459.6	452.9
57.5°	440.4	440.4	430.4	422.1	417.1
60°	404.6	400.5	393.8	384.6	378.0
62.5°	367.2	364.7	355.5	346.4	341.4
65°	327.2	324.7	317.2	308.9	303.9
67.5°	288.1	287.2	280.6	273.9	270.6
70°	251.4	249.8	243.1	236.5	233.1
72.5°	214.0	212.3	206.5	200.7	196.5
75°	176.5	174.8	171.5	166.5	162.4
77.5°	139.9	139.9	135.7	134.0	132.4
80°	106.6	105.7	104.1	102.4	100.7
82.5°	76.6	75.8	74.1	73.3	73.3
85°	50.0	49.1	47.5	46.6	45.8
87.5°	25.8	24.1	23.3	21.6	20.8
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	20.15	21.78	20.52	22.09	22.41	19.84	21.47	20.21	21.78	22.10
	3H	21.95	23.42	22.33	23.75	24.11	21.60	23.07	21.98	23.39	23.76
	4H	22.63	24.01	23.03	24.36	24.74	22.25	23.63	22.65	23.98	24.36
	6H	23.13	24.41	23.54	24.77	25.16	22.75	24.03	23.16	24.40	24.79
	8H	23.29	24.52	23.72	24.91	25.31	22.92	24.15	23.34	24.53	24.93
	12H	23.42	24.59	23.85	24.97	25.40	23.04	24.21	23.47	24.60	25.03
4H	2H	20.74	22.13	21.14	22.48	22.85	20.50	21.88	20.90	22.23	22.61
	3H	22.77	23.93	23.18	24.33	24.73	22.47	23.63	22.88	24.03	24.43
	4H	23.58	24.63	24.01	25.04	25.48	23.25	24.30	23.68	24.72	25.15
	6H	24.21	25.13	24.66	25.57	26.02	23.88	24.80	24.34	25.24	25.70
	8H	24.43	25.29	24.89	25.73	26.20	24.10	24.96	24.56	25.41	25.87
	12H	24.60	25.38	25.08	25.85	26.32	24.27	25.04	24.75	25.52	25.99
8H	4H	23.87	24.73	24.33	25.18	25.64	23.59	24.45	24.05	24.89	25.35
	6H	24.63	25.34	25.12	25.83	26.31	24.34	25.06	24.84	25.55	26.02
	8H	24.92	25.57	25.43	26.07	26.56	24.64	25.28	25.15	25.79	26.27
	12H	25.18	25.75	25.69	26.24	26.80	24.89	25.46	25.40	25.95	26.51
12H	4H	23.91	24.68	24.38	25.15	25.62	23.63	24.40	24.11	24.87	25.34
	6H	24.68	25.33	25.19	25.83	26.32	24.41	25.05	24.92	25.56	26.04
	8H	25.04	25.61	25.55	26.10	26.66	24.77	25.34	25.27	25.83	26.39