

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P930254

Luminaire Tested: DFN2DS-HX3F0-090DS950-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930254
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-HX3F0-090DS950-RLL
Description: 3 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

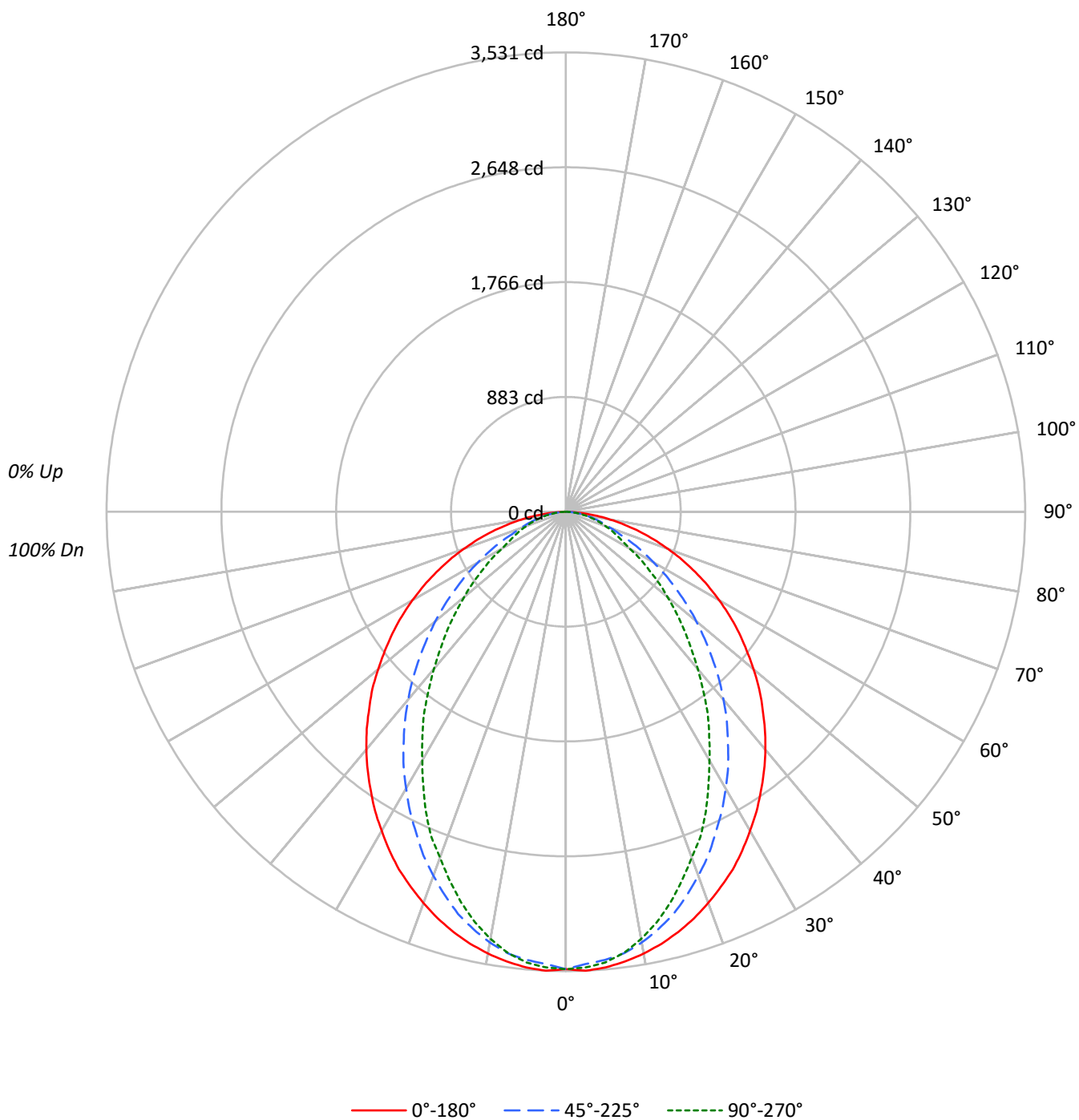
Lumens per Lamp: N/A
Luminaire Lumens: 7229.2 lumens
Efficiency: N/A
Efficacy: 74.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.28' x L: 2.84' x H: 0')
CIE Type: Direct

Input Watts (W): 97.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4072	4072	4072
5°	4087	4021	4043
10°	4056	3955	3921
15°	4009	3838	3727
20°	3945	3670	3486
25°	3879	3480	3253
30°	3787	3285	2953
35°	3698	3073	2690
40°	3608	2852	2386
45°	3502	2606	2110
50°	3394	2356	1840
55°	3283	2088	1580
60°	3154	1805	1312
65°	3008	1517	1194
70°	2834	1249	1098
75°	2619	1139	1026
80°	2312	1017	934
85°	1815	803	803

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3502 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	329.4	4.6
10°-20°	904.4	12.5
20°-30°	1269.7	17.6
30°-40°	1384.1	19.1
40°-50°	1272.1	17.6
50°-60°	999.0	13.8
60°-70°	650.3	9.0
70°-80°	334.7	4.6
80°-90°	85.5	1.2
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°	2503.5	34.6
0°-40°	3887.6	53.8
0°-60°	6158.8	85.2
0°-90°	7229.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7229.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3515	3515	3515	3515	3515	
5°	3515	3499	3458	3486	3477	333
15°	3343	3308	3200	3140	3108	942
25°	3035	2933	2723	2593	2545	1396
35°	2615	2453	2173	1972	1902	1637
45°	2138	1924	1591	1364	1288	1651
55°	1625	1377	1034	843	783	1452
65°	1098	840	554	446	436	1088
75°	585	362	254	232	229	619
85°	137	70	60	60	60	164
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3515.1	3515.1	3515.1	3515.1	3515.1
2.5°	3531.0	3515.1	3480.0	3512.1	3505.7
5°	3515.1	3499.2	3457.8	3486.4	3476.9
7.5°	3486.4	3467.5	3423.0	3435.5	3419.6
10°	3448.3	3426.0	3362.6	3352.8	3333.9
12.5°	3400.7	3372.0	3286.0	3267.1	3231.9
15°	3343.3	3308.3	3200.2	3139.8	3108.1
17.5°	3276.5	3225.6	3091.9	3022.0	2971.1
20°	3200.2	3136.5	2977.4	2898.1	2827.9
22.5°	3117.6	3044.3	2859.7	2751.7	2704.1
25°	3034.9	2932.9	2723.0	2592.7	2544.8
27.5°	2936.3	2827.9	2595.7	2446.2	2373.0
30°	2831.3	2710.2	2455.7	2293.7	2207.6
32.5°	2729.3	2582.9	2322.3	2131.4	2051.7
35°	2615.0	2452.7	2172.8	1972.4	1902.2
37.5°	2503.6	2328.5	2032.8	1813.1	1733.8
40°	2385.8	2195.1	1886.3	1660.6	1577.9
42.5°	2265.0	2061.5	1740.1	1504.6	1425.2
45°	2137.8	1924.5	1590.6	1364.5	1288.2
47.5°	2016.9	1791.2	1447.6	1221.4	1151.6
50°	1883.3	1657.4	1307.5	1087.8	1021.3
52.5°	1752.7	1514.1	1173.9	963.9	903.5
55°	1625.4	1377.3	1033.7	843.1	782.6
57.5°	1495.2	1240.7	909.9	731.7	680.8
60°	1361.5	1107.0	779.3	617.3	566.3
62.5°	1231.2	976.8	667.9	515.4	490.1
65°	1097.5	839.7	553.5	445.5	435.7
67.5°	970.3	712.4	445.5	391.1	381.7
70°	836.7	588.6	368.9	337.2	324.3
72.5°	709.4	473.8	308.4	283.1	276.8
75°	585.2	362.5	254.5	232.2	229.2
77.5°	461.3	257.5	200.4	187.7	181.3
80°	346.6	184.7	152.5	140.0	140.0
82.5°	241.6	124.2	105.0	98.6	98.6
85°	136.6	69.8	60.4	60.4	60.4
87.5°	50.9	25.3	25.3	22.3	22.3
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	16.11	17.63	16.48	17.95	18.26	12.07	13.60	12.44	13.91	14.22
	3H	17.88	19.24	18.26	19.57	19.93	13.34	14.70	13.72	15.03	15.39
	4H	18.54	19.83	18.94	20.17	20.55	13.84	15.12	14.24	15.47	15.85
	6H	19.03	20.22	19.45	20.58	20.97	14.22	15.40	14.63	15.77	16.16
	8H	19.20	20.33	19.63	20.71	21.12	14.35	15.47	14.77	15.86	16.26
	12H	19.30	20.38	19.73	20.76	21.19	14.43	15.51	14.86	15.89	16.32
4H	2H	16.22	17.50	16.62	17.85	18.22	12.77	14.05	13.17	14.40	14.78
	3H	18.15	19.21	18.56	19.61	20.01	14.21	15.27	14.62	15.67	16.08
	4H	18.90	19.86	19.33	20.27	20.71	14.81	15.77	15.24	16.18	16.62
	6H	19.49	20.32	19.95	20.77	21.23	15.30	16.13	15.76	16.57	17.03
	8H	19.71	20.48	20.17	20.93	21.39	15.46	16.24	15.93	16.68	17.15
	12H	19.86	20.55	20.34	21.03	21.50	15.58	16.27	16.06	16.75	17.22
8H	4H	18.92	19.70	19.39	20.15	20.61	15.17	15.94	15.63	16.39	16.85
	6H	19.56	20.20	20.06	20.69	21.17	15.75	16.39	16.25	16.89	17.36
	8H	19.81	20.39	20.33	20.90	21.39	15.97	16.55	16.49	17.06	17.55
	12H	20.02	20.53	20.53	21.02	21.58	16.15	16.66	16.66	17.15	17.72
12H	4H	18.91	19.60	19.39	20.08	20.55	15.21	15.90	15.69	16.38	16.85
	6H	19.54	20.12	20.06	20.63	21.12	15.82	16.39	16.33	16.90	17.39
	8H	19.83	20.34	20.34	20.83	21.39	16.09	16.60	16.60	17.09	17.66