

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: P930756

Luminaire Tested: DFN2DS-PN4F0-100DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930756
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-PN4F0-100DS940-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

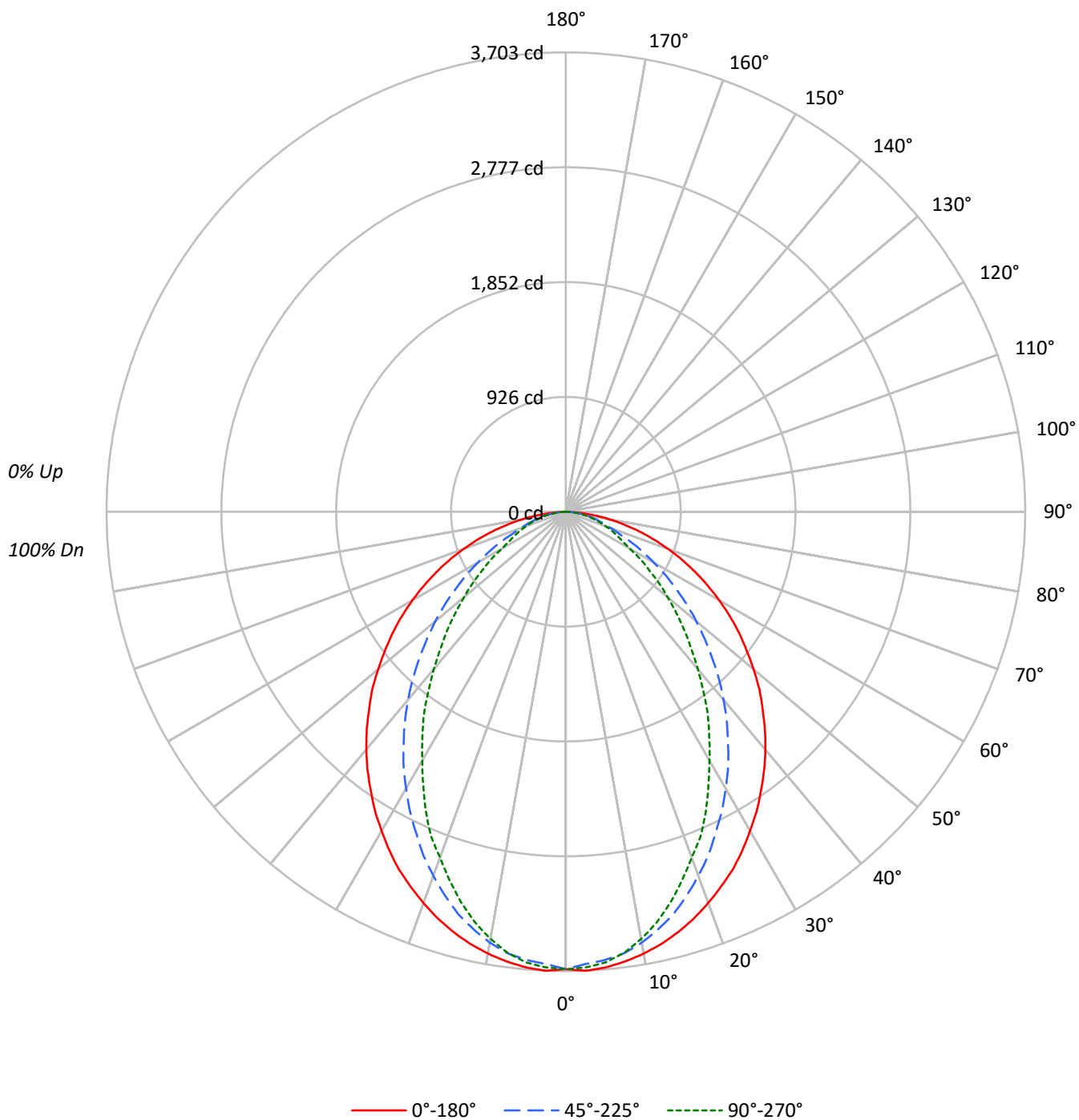
Lumens per Lamp: N/A
Luminaire Lumens: 7582.0 lumens
Efficiency: N/A
Efficacy: 71.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 105.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
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°	2691	2691	2691
5°	2701	2657	2672
10°	2681	2614	2592
15°	2650	2536	2463
20°	2607	2426	2304
25°	2564	2300	2150
30°	2503	2171	1952
35°	2444	2031	1778
40°	2384	1885	1577
45°	2314	1722	1395
50°	2243	1557	1216
55°	2169	1380	1045
60°	2085	1193	867
65°	1988	1003	789
70°	1873	826	726
75°	1731	753	678
80°	1528	673	618
85°	1200	530	530

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2314 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	345.5	4.6
10°-20°	948.5	12.5
20°-30°	1331.7	17.6
30°-40°	1451.6	19.1
40°-50°	1334.2	17.6
50°-60°	1047.8	13.8
60°-70°	682.0	9.0
70°-80°	351.1	4.6
80°-90°	89.6	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°	2625.7	34.6
0°-40°	4077.3	53.8
0°-60°	6459.3	85.2
0°-90°	7582.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7582.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3687	3687	3687	3687	3687	
5°	3687	3670	3626	3657	3647	350
15°	3506	3470	3356	3293	3260	988
25°	3183	3076	2856	2719	2669	1464
35°	2742	2572	2279	2069	1995	1717
45°	2242	2018	1668	1431	1351	1731
55°	1705	1445	1084	884	821	1523
65°	1151	881	580	467	457	1141
75°	614	380	267	244	240	649
85°	143	73	63	63	63	172
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3686.6	3686.6	3686.6	3686.6	3686.6
2.5°	3703.2	3686.6	3649.8	3683.4	3676.7
5°	3686.6	3670.0	3626.4	3656.6	3646.6
7.5°	3656.6	3636.7	3589.9	3603.1	3586.5
10°	3616.5	3593.2	3526.6	3516.4	3496.6
12.5°	3566.7	3536.5	3446.2	3426.4	3389.6
15°	3506.5	3469.6	3356.3	3293.0	3259.7
17.5°	3436.3	3382.9	3242.8	3169.5	3116.0
20°	3356.3	3289.4	3122.7	3039.6	2965.9
22.5°	3269.6	3192.8	2999.2	2886.0	2836.0
25°	3182.9	3076.1	2855.8	2719.2	2669.0
27.5°	3079.5	2965.9	2722.4	2565.6	2488.8
30°	2969.5	2842.4	2575.5	2405.6	2315.4
32.5°	2862.6	2708.9	2435.7	2235.4	2151.8
35°	2742.5	2572.3	2278.9	2068.6	1995.0
37.5°	2625.8	2442.0	2132.0	1901.6	1818.3
40°	2502.2	2302.3	1978.4	1741.5	1654.8
42.5°	2375.5	2162.0	1825.1	1578.0	1494.8
45°	2242.0	2018.3	1668.3	1431.1	1351.1
47.5°	2115.4	1878.6	1518.2	1281.0	1207.8
50°	1975.2	1738.3	1371.3	1140.9	1071.1
52.5°	1838.1	1587.9	1231.1	1010.9	947.6
55°	1704.7	1444.6	1084.2	884.2	820.8
57.5°	1568.1	1301.2	954.4	767.4	714.0
60°	1427.9	1161.0	817.3	647.4	594.0
62.5°	1291.3	1024.4	700.5	540.6	514.0
65°	1151.1	880.7	580.5	467.2	457.0
67.5°	1017.7	747.2	467.2	410.2	400.3
70°	877.5	617.4	386.9	353.6	340.2
72.5°	744.0	496.9	323.5	296.9	290.3
75°	613.8	380.2	266.9	243.5	240.3
77.5°	483.9	270.1	210.2	196.8	190.1
80°	363.5	193.7	160.0	146.9	146.9
82.5°	253.4	130.2	110.1	103.4	103.4
85°	143.3	73.2	63.3	63.3	63.3
87.5°	53.4	26.6	26.6	23.4	23.4
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	14.67	16.20	15.04	16.51	16.82	10.63	12.16	11.00	12.47	12.78
	3H	16.44	17.80	16.82	18.13	18.49	11.90	13.26	12.28	13.59	13.95
	4H	17.11	18.39	17.51	18.74	19.11	12.40	13.68	12.80	14.03	14.41
	6H	17.59	18.78	18.01	19.14	19.54	12.78	13.97	13.19	14.33	14.72
	8H	17.76	18.89	18.19	19.28	19.68	12.91	14.03	13.33	14.42	14.82
	12H	17.86	18.94	18.29	19.32	19.75	12.99	14.07	13.42	14.45	14.88
4H	2H	14.78	16.06	15.18	16.41	16.79	11.33	12.61	11.73	12.96	13.34
	3H	16.71	17.77	17.12	18.17	18.58	12.77	13.84	13.18	14.24	14.64
	4H	17.46	18.42	17.89	18.83	19.27	13.37	14.33	13.80	14.74	15.18
	6H	18.05	18.88	18.51	19.33	19.79	13.86	14.69	14.32	15.14	15.59
	8H	18.27	19.04	18.73	19.49	19.96	14.02	14.80	14.49	15.24	15.71
	12H	18.42	19.12	18.90	19.59	20.06	14.14	14.83	14.62	15.31	15.78
8H	4H	17.48	18.26	17.95	18.71	19.17	13.73	14.50	14.19	14.95	15.42
	6H	18.12	18.77	18.62	19.26	19.73	14.31	14.96	14.81	15.45	15.92
	8H	18.37	18.95	18.89	19.46	19.95	14.53	15.11	15.05	15.62	16.11
	12H	18.58	19.09	19.09	19.58	20.14	14.71	15.22	15.22	15.72	16.28
12H	4H	17.47	18.16	17.95	18.64	19.11	13.77	14.46	14.25	14.94	15.41
	6H	18.10	18.68	18.62	19.19	19.68	14.38	14.95	14.89	15.46	15.95
	8H	18.39	18.90	18.90	19.39	19.95	14.65	15.16	15.16	15.65	16.22