

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: P930684

Luminaire Tested: DFN2DS-PN4F0-060DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930684
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-PN4F0-060DS940-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

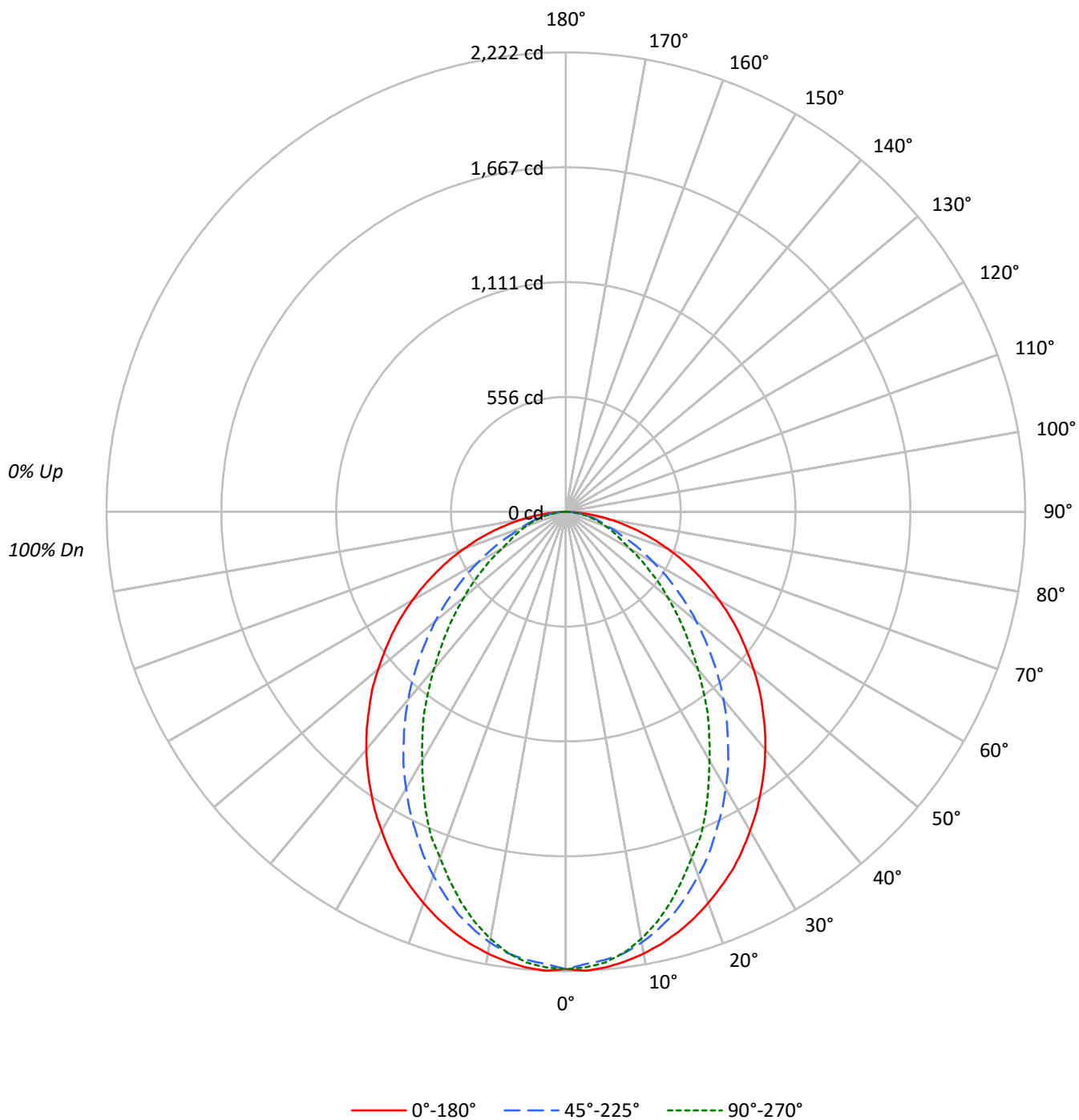
Lumens per Lamp: N/A
Luminaire Lumens: 4549.2 lumens
Efficiency: N/A
Efficacy: 76.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 59.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
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°	1615	1615	1615
5°	1621	1594	1603
10°	1608	1568	1555
15°	1590	1522	1478
20°	1564	1455	1382
25°	1538	1380	1290
30°	1502	1303	1171
35°	1466	1218	1067
40°	1431	1131	946
45°	1389	1033	837
50°	1346	934	730
55°	1302	828	627
60°	1251	716	520
65°	1193	602	474
70°	1124	495	436
75°	1039	452	407
80°	917	404	370
85°	720	318	318

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1389 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	207.3	4.6
10°-20°	569.1	12.5
20°-30°	799.0	17.6
30°-40°	871.0	19.1
40°-50°	800.5	17.6
50°-60°	628.7	13.8
60°-70°	409.2	9.0
70°-80°	210.6	4.6
80°-90°	53.8	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°	1575.4	34.6
0°-40°	2446.4	53.8
0°-60°	3875.6	85.2
0°-90°	4549.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4549.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2212	2212	2212	2212	2212	
5°	2212	2202	2176	2194	2188	210
15°	2104	2082	2014	1976	1956	593
25°	1910	1846	1714	1632	1601	878
35°	1646	1543	1367	1241	1197	1030
45°	1345	1211	1001	859	811	1039
55°	1023	867	650	531	492	914
65°	691	528	348	280	274	685
75°	368	228	160	146	144	390
85°	86	44	38	38	38	103
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2212.0	2212.0	2212.0	2212.0	2212.0
2.5°	2222.0	2212.0	2189.9	2210.0	2206.0
5°	2212.0	2202.0	2175.9	2194.0	2188.0
7.5°	2194.0	2182.0	2154.0	2161.9	2151.9
10°	2169.9	2155.9	2116.0	2109.8	2097.9
12.5°	2140.0	2121.9	2067.7	2055.9	2033.8
15°	2103.9	2081.7	2013.8	1975.8	1955.8
17.5°	2061.9	2029.7	1945.6	1901.7	1869.6
20°	2013.8	1973.6	1873.6	1823.7	1779.5
22.5°	1961.8	1915.7	1799.5	1731.6	1701.6
25°	1909.8	1845.6	1713.5	1631.6	1601.4
27.5°	1847.8	1779.5	1633.4	1539.3	1493.3
30°	1781.7	1705.4	1545.3	1443.3	1389.2
32.5°	1717.5	1625.4	1461.5	1341.2	1291.1
35°	1645.6	1543.4	1367.3	1241.1	1197.0
37.5°	1575.5	1465.2	1279.2	1141.0	1091.0
40°	1501.3	1381.4	1187.0	1044.9	992.9
42.5°	1425.3	1297.2	1095.0	946.8	896.9
45°	1345.2	1211.0	1001.0	858.6	810.6
47.5°	1269.2	1127.1	910.9	768.6	724.7
50°	1185.1	1043.0	822.8	684.5	642.7
52.5°	1102.9	952.7	738.7	606.6	568.6
55°	1022.9	866.8	650.5	530.6	492.5
57.5°	940.9	780.7	572.6	460.5	428.3
60°	856.8	696.7	490.4	388.5	356.4
62.5°	774.8	614.7	420.3	324.3	308.4
65°	690.7	528.4	348.3	280.4	274.2
67.5°	610.6	448.3	280.4	246.2	240.2
70°	526.5	370.4	232.1	212.2	204.1
72.5°	446.4	298.2	194.1	178.2	174.1
75°	368.3	228.1	160.1	146.1	144.2
77.5°	290.3	162.1	126.1	118.1	114.1
80°	218.1	116.1	96.0	88.1	88.1
82.5°	152.1	78.1	66.0	62.0	62.0
85°	86.0	44.0	38.0	38.0	38.0
87.5°	32.1	16.0	16.0	14.0	14.0
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	12.90	14.42	13.26	14.73	15.05	8.86	10.38	9.23	10.70	11.01
	3H	14.66	16.03	15.04	16.36	16.72	10.13	11.49	10.50	11.82	12.18
	4H	15.33	16.61	15.73	16.96	17.34	10.63	11.91	11.03	12.26	12.63
	6H	15.82	17.00	16.23	17.37	17.76	11.01	12.19	11.42	12.56	12.95
	8H	15.99	17.11	16.41	17.50	17.90	11.13	12.26	11.56	12.65	13.05
	12H	16.09	17.17	16.52	17.55	17.98	11.21	12.29	11.64	12.67	13.10
4H	2H	13.00	14.28	13.40	14.63	15.01	9.56	10.84	9.96	11.19	11.56
	3H	14.94	16.00	15.35	16.40	16.80	11.00	12.06	11.41	12.46	12.86
	4H	15.69	16.64	16.12	17.06	17.50	11.60	12.55	12.03	12.97	13.41
	6H	16.28	17.11	16.73	17.55	18.01	12.09	12.92	12.54	13.36	13.82
	8H	16.49	17.27	16.96	17.71	18.18	12.25	13.03	12.71	13.47	13.94
	12H	16.65	17.34	17.13	17.82	18.29	12.37	13.06	12.85	13.54	14.01
8H	4H	15.71	16.49	16.17	16.93	17.40	11.95	12.73	12.42	13.17	13.64
	6H	16.35	16.99	16.84	17.48	17.96	12.54	13.18	13.03	13.67	14.15
	8H	16.60	17.17	17.11	17.68	18.17	12.76	13.34	13.27	13.85	14.33
	12H	16.80	17.31	17.31	17.80	18.37	12.94	13.45	13.45	13.94	14.50
12H	4H	15.69	16.39	16.18	16.87	17.34	12.00	12.69	12.48	13.17	13.64
	6H	16.33	16.91	16.84	17.42	17.90	12.60	13.18	13.12	13.69	14.18
	8H	16.61	17.12	17.12	17.61	18.18	12.87	13.38	13.38	13.88	14.44