

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: P930666

Luminaire Tested: DFN2DS-PN4F0-050DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930666
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-PN4F0-050DS940-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

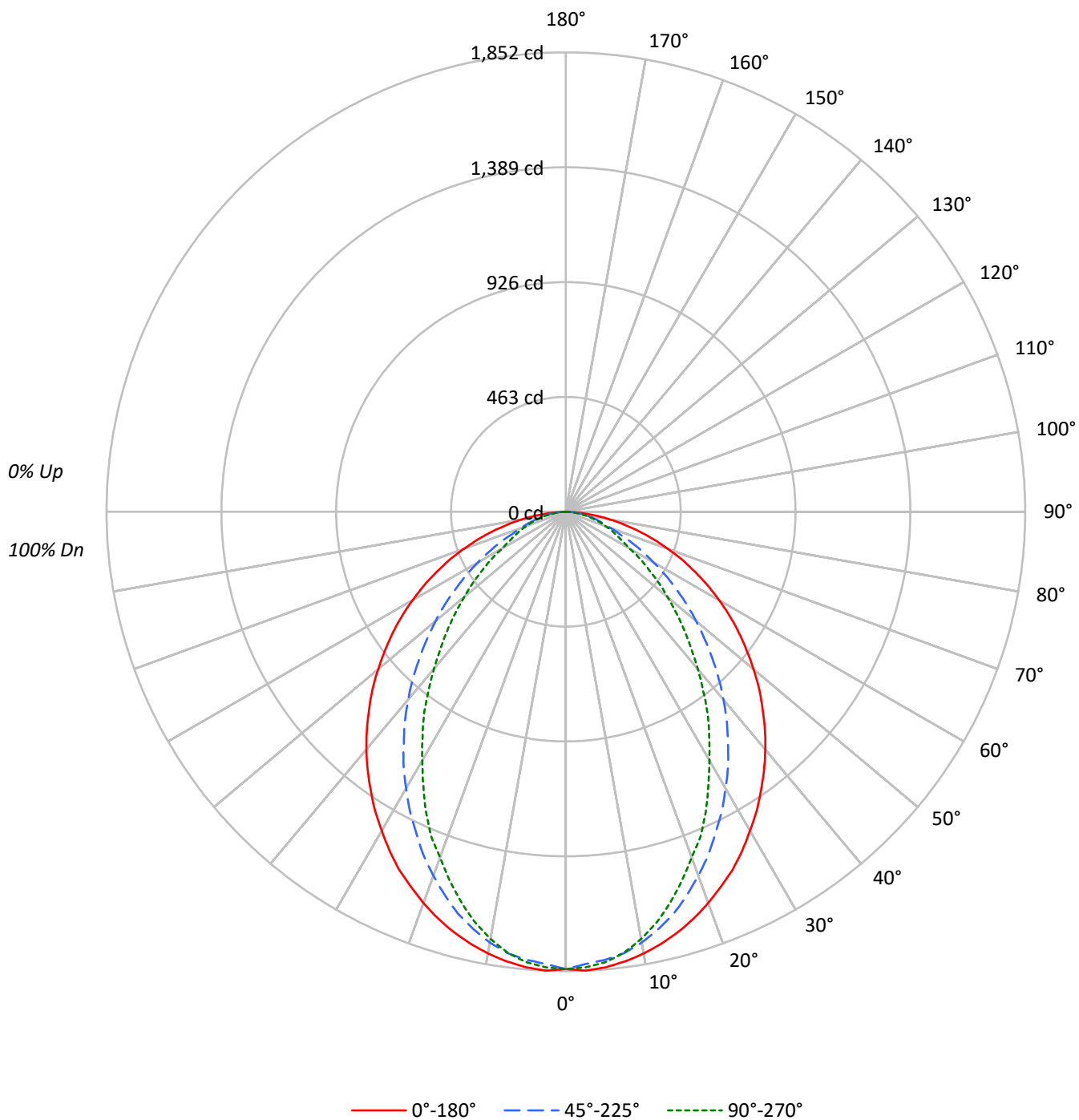
Lumens per Lamp: N/A
Luminaire Lumens: 3791.0 lumens
Efficiency: N/A
Efficacy: 77.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 48.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
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°	1346	1346	1346
5°	1351	1329	1336
10°	1340	1307	1296
15°	1325	1268	1232
20°	1304	1213	1152
25°	1282	1150	1075
30°	1251	1085	976
35°	1222	1015	889
40°	1192	943	788
45°	1157	861	697
50°	1122	779	608
55°	1085	690	522
60°	1042	597	433
65°	994	501	395
70°	937	413	363
75°	866	376	339
80°	764	336	309
85°	601	265	265

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1157 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.8	4.6
10°-20°	474.3	12.5
20°-30°	665.8	17.6
30°-40°	725.8	19.1
40°-50°	667.1	17.6
50°-60°	523.9	13.8
60°-70°	341.0	9.0
70°-80°	175.5	4.6
80°-90°	44.8	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°	1312.9	34.6
0°-40°	2038.7	53.8
0°-60°	3229.7	85.2
0°-90°	3791.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3791.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1843	1843	1843	1843	1843	
5°	1843	1835	1813	1828	1823	175
15°	1753	1735	1678	1646	1630	494
25°	1591	1538	1428	1360	1334	732
35°	1371	1286	1139	1034	998	858
45°	1121	1009	834	716	676	866
55°	852	722	542	442	410	762
65°	576	440	290	234	228	571
75°	307	190	133	122	120	325
85°	72	37	32	32	32	86
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1843.3	1843.3	1843.3	1843.3	1843.3
2.5°	1851.6	1843.3	1824.9	1841.7	1838.3
5°	1843.3	1835.0	1813.3	1828.2	1823.3
7.5°	1828.2	1818.3	1795.0	1801.6	1793.2
10°	1808.3	1796.6	1763.3	1758.2	1748.2
12.5°	1783.3	1768.3	1723.2	1713.3	1694.8
15°	1753.2	1734.9	1678.2	1646.5	1629.9
17.5°	1718.2	1691.5	1621.4	1584.7	1558.0
20°	1678.2	1644.8	1561.4	1519.8	1483.0
22.5°	1634.9	1596.4	1499.6	1443.0	1418.0
25°	1591.4	1538.0	1427.9	1359.6	1334.4
27.5°	1539.8	1483.0	1361.2	1282.8	1244.4
30°	1484.7	1421.2	1287.8	1202.8	1157.6
32.5°	1431.3	1354.5	1217.8	1117.7	1075.9
35°	1371.3	1286.2	1139.4	1034.3	997.5
37.5°	1312.8	1221.1	1066.0	950.8	909.2
40°	1251.1	1151.1	989.1	870.8	827.4
42.5°	1187.8	1081.0	912.5	789.0	747.4
45°	1121.1	1009.2	834.1	715.6	675.5
47.5°	1057.6	939.3	759.1	640.5	603.9
50°	987.6	869.2	685.7	570.4	535.6
52.5°	919.1	794.0	615.6	505.5	473.8
55°	852.4	722.3	542.1	442.1	410.4
57.5°	784.1	650.6	477.1	383.7	357.0
60°	714.0	580.5	408.6	323.7	296.9
62.5°	645.6	512.2	350.3	270.3	257.0
65°	575.5	440.4	290.3	233.6	228.5
67.5°	508.8	373.7	233.6	205.2	200.2
70°	438.8	308.6	193.5	176.8	170.1
72.5°	372.1	248.5	161.8	148.5	145.1
75°	306.9	190.1	133.4	121.8	120.2
77.5°	241.9	135.0	105.2	98.4	95.0
80°	181.8	96.8	80.0	73.4	73.4
82.5°	126.8	65.1	55.0	51.6	51.6
85°	71.7	36.7	31.7	31.7	31.7
87.5°	26.8	13.3	13.3	11.7	11.7
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	12.27	13.79	12.63	14.10	14.42	8.23	9.75	8.59	10.06	10.38
	3H	14.03	15.40	14.41	15.72	16.09	9.49	10.86	9.87	11.18	11.55
	4H	14.70	15.98	15.10	16.33	16.71	9.99	11.27	10.39	11.62	12.00
	6H	15.19	16.37	15.60	16.74	17.13	10.37	11.56	10.79	11.92	12.32
	8H	15.35	16.48	15.78	16.87	17.27	10.50	11.62	10.92	12.01	12.42
	12H	15.46	16.53	15.89	16.92	17.34	10.58	11.66	11.01	12.04	12.47
4H	2H	12.37	13.65	12.77	14.00	14.38	8.92	10.20	9.32	10.55	10.93
	3H	14.30	15.37	14.71	15.77	16.17	10.37	11.43	10.78	11.83	12.23
	4H	15.05	16.01	15.49	16.42	16.86	10.97	11.92	11.40	12.34	12.78
	6H	15.64	16.48	16.10	16.92	17.38	11.45	12.28	11.91	12.73	13.19
	8H	15.86	16.64	16.32	17.08	17.55	11.61	12.39	12.08	12.84	13.30
	12H	16.01	16.71	16.49	17.19	17.66	11.73	12.43	12.21	12.90	13.38
8H	4H	15.08	15.85	15.54	16.30	16.77	11.32	12.10	11.78	12.54	13.01
	6H	15.71	16.36	16.21	16.85	17.33	11.90	12.55	12.40	13.04	13.52
	8H	15.96	16.54	16.48	17.05	17.54	12.13	12.70	12.64	13.21	13.70
	12H	16.17	16.68	16.68	17.17	17.74	12.30	12.81	12.81	13.31	13.87
12H	4H	15.06	15.76	15.54	16.23	16.71	11.36	12.06	11.84	12.54	13.01
	6H	15.70	16.27	16.21	16.78	17.27	11.97	12.55	12.48	13.06	13.54
	8H	15.98	16.49	16.49	16.98	17.55	12.24	12.75	12.75	13.24	13.81

END OF REPORT

FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE

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