

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: P930683

Luminaire Tested: DFN2DS-PN4F0-060DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930683
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-PN4F0-060DS940-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

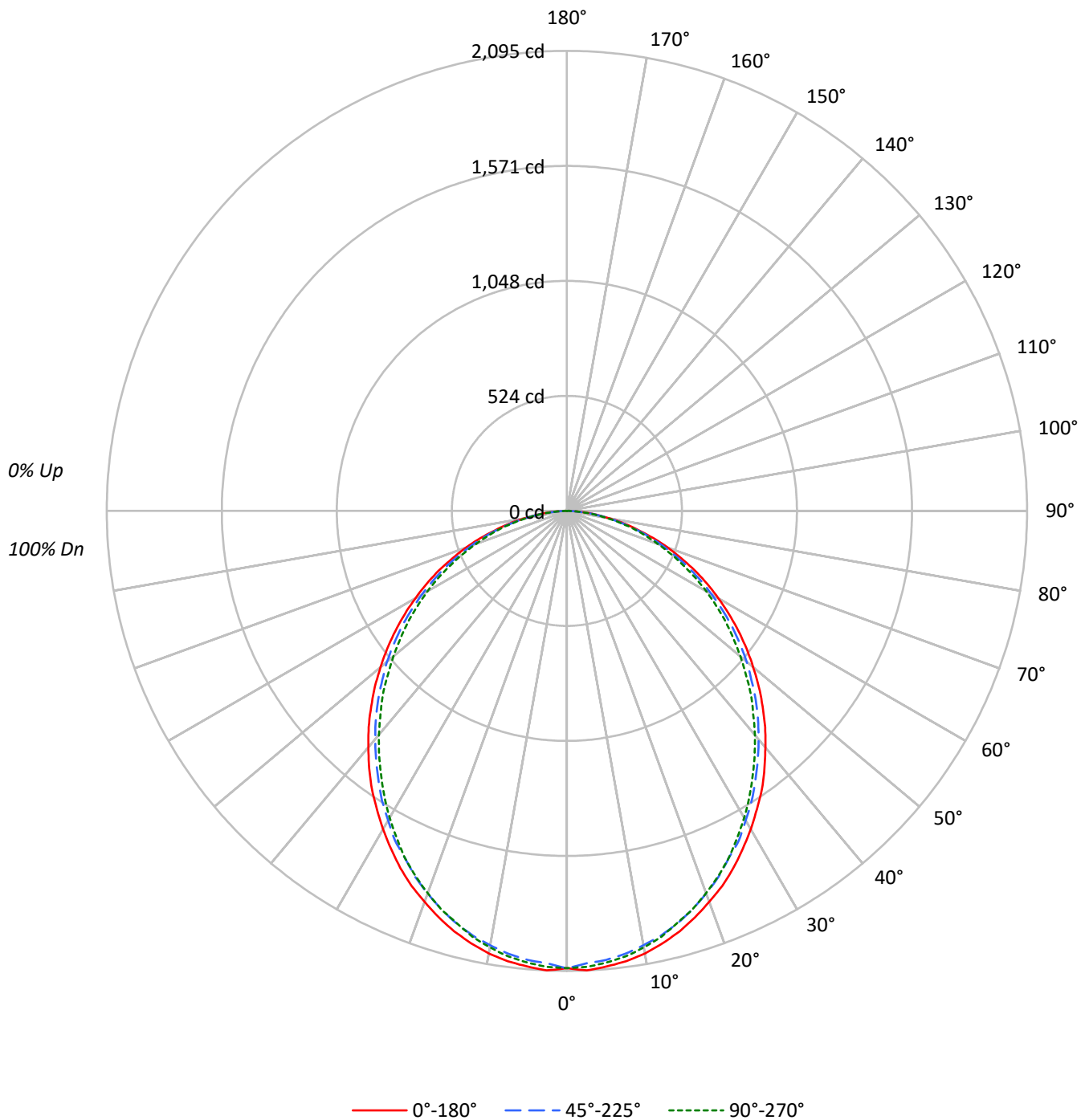
Lumens per Lamp: N/A
Luminaire Lumens: 5298.4 lumens
Efficiency: N/A
Efficacy: 89.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1520	1520	1520
5°	1526	1504	1513
10°	1517	1489	1496
15°	1498	1469	1468
20°	1472	1440	1439
25°	1445	1405	1405
30°	1411	1372	1360
35°	1379	1333	1313
40°	1340	1294	1269
45°	1300	1255	1224
50°	1257	1214	1171
55°	1213	1167	1124
60°	1163	1111	1070
65°	1110	1055	1006
70°	1043	987	940
75°	948	909	887
80°	842	816	774
85°	687	654	587

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1300 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.0	3.7
10°-20°	551.5	10.4
20°-30°	810.5	15.3
30°-40°	941.3	17.8
40°-50°	940.1	17.7
50°-60°	819.8	15.5
60°-70°	606.0	11.4
70°-80°	342.9	6.5
80°-90°	90.5	1.7
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°	1558.0	29.4
0°-40°	2499.3	47.2
0°-60°	4259.1	80.4
0°-90°	5298.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5298.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2082	2082	2082	2082	2082	
5°	2082	2075	2052	2068	2065	198
15°	1982	1970	1944	1952	1942	558
25°	1794	1778	1744	1748	1744	826
35°	1548	1528	1496	1484	1474	967
45°	1260	1246	1215	1194	1186	972
55°	953	941	917	893	883	852
65°	643	631	611	593	583	636
75°	336	332	322	310	314	359
85°	82	80	78	72	70	96
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2082.5	2082.5	2082.5	2082.5	2082.5
2.5°	2094.6	2084.6	2062.5	2082.5	2078.6
5°	2082.5	2074.6	2052.5	2068.5	2064.6
7.5°	2068.5	2056.6	2034.5	2050.6	2046.6
10°	2046.6	2032.6	2008.5	2024.5	2018.5
12.5°	2016.5	2004.5	1980.5	1990.5	1986.5
15°	1982.4	1970.5	1944.4	1952.5	1942.5
17.5°	1940.4	1928.5	1902.4	1912.3	1902.4
20°	1894.3	1882.4	1854.3	1860.3	1852.4
22.5°	1848.4	1830.3	1804.2	1804.2	1800.1
25°	1794.2	1778.3	1744.2	1748.1	1744.2
27.5°	1734.0	1720.0	1694.1	1688.2	1678.2
30°	1674.2	1658.0	1628.1	1622.1	1614.0
32.5°	1610.0	1598.1	1566.0	1553.9	1545.8
35°	1548.0	1528.0	1495.9	1483.8	1473.8
37.5°	1477.9	1459.8	1427.7	1413.6	1403.7
40°	1405.8	1389.6	1357.6	1339.8	1331.7
42.5°	1335.7	1319.5	1287.7	1267.5	1255.6
45°	1259.7	1245.6	1215.4	1193.6	1185.5
47.5°	1185.5	1171.5	1139.4	1117.3	1105.4
50°	1107.3	1097.3	1069.3	1041.2	1031.2
52.5°	1031.2	1017.2	991.3	969.2	955.2
55°	953.3	941.1	917.2	893.2	883.2
57.5°	875.1	865.2	839.0	815.0	806.9
60°	796.9	789.1	761.1	738.9	733.0
62.5°	720.8	706.8	686.8	666.9	658.8
65°	642.9	630.8	610.8	592.7	582.7
67.5°	562.8	552.6	534.8	520.7	512.6
70°	488.6	480.6	462.5	448.5	440.6
72.5°	412.6	404.5	394.5	380.5	374.6
75°	336.3	332.5	322.3	310.4	314.4
77.5°	268.3	260.3	256.2	250.3	244.3
80°	200.3	198.2	194.2	188.2	184.2
82.5°	136.2	136.2	134.2	126.2	126.2
85°	82.0	80.1	78.1	72.0	70.1
87.5°	36.1	32.1	28.0	22.1	20.0
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	12.74	14.35	13.10	14.66	14.98	12.29	13.90	12.66	14.22	14.53
	3H	14.49	15.94	14.86	16.27	16.63	14.00	15.45	14.37	15.78	16.14
	4H	15.13	16.50	15.53	16.85	17.23	14.64	16.01	15.04	16.36	16.73
	6H	15.60	16.87	16.01	17.24	17.63	15.10	16.37	15.51	16.73	17.13
	8H	15.75	16.96	16.17	17.35	17.75	15.24	16.45	15.67	16.84	17.24
	12H	15.84	17.00	16.27	17.38	17.81	15.32	16.48	15.75	16.87	17.29
4H	2H	13.30	14.67	13.70	15.02	15.39	12.95	14.31	13.34	14.66	15.04
	3H	15.27	16.42	15.68	16.82	17.22	14.87	16.01	15.28	16.41	16.81
	4H	16.05	17.09	16.48	17.50	17.94	15.63	16.66	16.06	17.08	17.51
	6H	16.65	17.55	17.10	17.99	18.45	16.21	17.12	16.67	17.56	18.02
	8H	16.84	17.68	17.30	18.12	18.59	16.40	17.24	16.86	17.69	18.15
	12H	16.97	17.73	17.45	18.20	18.67	16.52	17.28	17.00	17.75	18.22
8H	4H	16.32	17.17	16.78	17.61	18.08	15.95	16.80	16.41	17.24	17.70
	6H	17.04	17.74	17.53	18.23	18.70	16.66	17.36	17.15	17.85	18.32
	8H	17.30	17.93	17.81	18.43	18.92	16.90	17.54	17.41	18.04	18.53
	12H	17.50	18.05	18.00	18.54	19.11	17.08	17.64	17.59	18.13	18.69
12H	4H	16.35	17.11	16.83	17.58	18.05	15.98	16.74	16.46	17.22	17.69
	6H	17.08	17.71	17.59	18.22	18.71	16.71	17.35	17.22	17.85	18.34
	8H	17.40	17.95	17.90	18.44	19.01	17.02	17.58	17.53	18.07	18.63