

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: P930665

Luminaire Tested: DFN2DS-PN4F0-050DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930665
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-PN4F0-050DS940-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

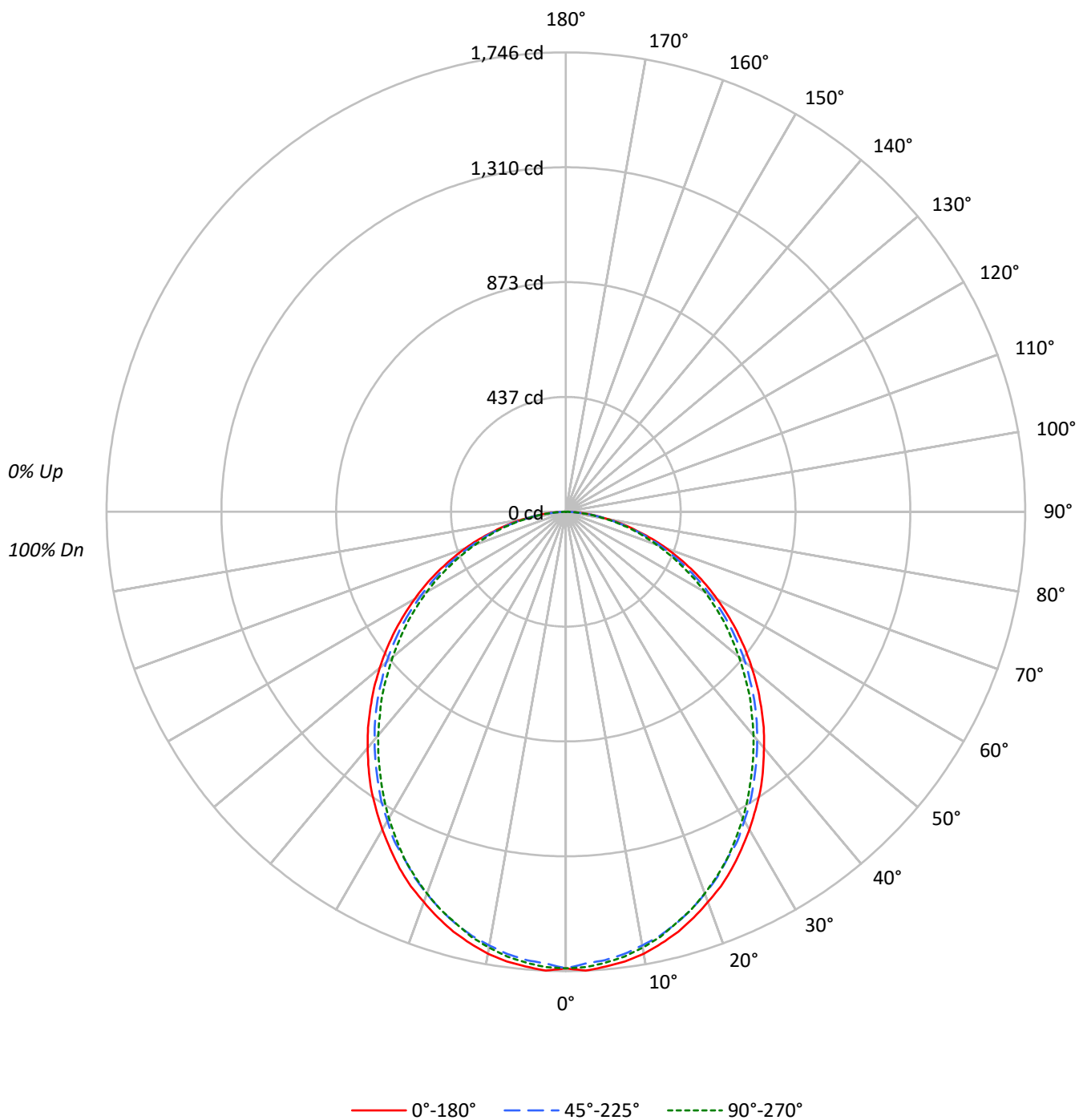
Lumens per Lamp: N/A
Luminaire Lumens: 4415.4 lumens
Efficiency: N/A
Efficacy: 90.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	1267	1267	1267
5°	1272	1253	1261
10°	1264	1241	1247
15°	1248	1224	1223
20°	1226	1200	1199
25°	1204	1171	1171
30°	1176	1144	1134
35°	1149	1111	1094
40°	1116	1078	1057
45°	1084	1046	1020
50°	1048	1012	976
55°	1011	973	937
60°	970	926	892
65°	925	879	839
70°	869	823	784
75°	791	758	739
80°	702	680	645
85°	572	545	489

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1084 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.3	3.7
10°-20°	459.6	10.4
20°-30°	675.4	15.3
30°-40°	784.4	17.8
40°-50°	783.4	17.7
50°-60°	683.1	15.5
60°-70°	505.0	11.4
70°-80°	285.7	6.5
80°-90°	75.4	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°	1298.3	29.4
0°-40°	2082.7	47.2
0°-60°	3549.3	80.4
0°-90°	4415.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4415.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1735	1735	1735	1735	1735	
5°	1735	1729	1710	1724	1721	165
15°	1652	1642	1620	1627	1619	465
25°	1495	1482	1454	1457	1454	688
35°	1290	1273	1247	1236	1228	806
45°	1050	1038	1013	995	988	810
55°	794	784	764	744	736	710
65°	536	526	509	494	486	530
75°	280	277	269	259	262	299
85°	68	67	65	60	58	80
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1735.4	1735.4	1735.4	1735.4	1735.4
2.5°	1745.5	1737.2	1718.8	1735.4	1732.3
5°	1735.4	1728.9	1710.4	1723.7	1720.6
7.5°	1723.7	1713.8	1695.4	1708.9	1705.5
10°	1705.5	1693.8	1673.8	1687.0	1682.1
12.5°	1680.3	1670.4	1650.5	1658.8	1655.4
15°	1652.0	1642.1	1620.3	1627.1	1618.7
17.5°	1616.9	1607.0	1585.3	1593.6	1585.3
20°	1578.6	1568.7	1545.3	1550.2	1543.7
22.5°	1540.3	1525.2	1503.5	1503.5	1500.1
25°	1495.2	1481.9	1453.5	1456.7	1453.5
27.5°	1445.0	1433.4	1411.8	1406.8	1398.5
30°	1395.1	1381.7	1356.7	1351.7	1345.0
32.5°	1341.7	1331.8	1305.0	1294.9	1288.2
35°	1289.9	1273.3	1246.6	1236.5	1228.2
37.5°	1231.5	1216.5	1189.7	1178.1	1169.8
40°	1171.6	1158.1	1131.3	1116.4	1109.7
42.5°	1113.1	1099.7	1073.1	1056.2	1046.3
45°	1049.7	1038.0	1012.9	994.7	987.9
47.5°	987.9	976.2	949.5	931.1	921.2
50°	922.8	914.5	891.1	867.7	859.4
52.5°	859.4	847.7	826.1	807.7	796.0
55°	794.4	784.3	764.3	744.3	736.0
57.5°	729.2	720.9	699.1	679.2	672.4
60°	664.1	657.6	634.2	615.7	610.8
62.5°	600.8	589.1	572.4	555.7	549.0
65°	535.7	525.7	509.0	494.0	485.6
67.5°	469.0	460.5	445.6	434.0	427.2
70°	407.2	400.5	385.4	373.7	367.2
72.5°	343.9	337.1	328.8	317.1	312.1
75°	280.3	277.1	268.6	258.7	262.1
77.5°	223.6	216.8	213.5	208.5	203.6
80°	167.0	165.2	161.8	156.9	153.5
82.5°	113.5	113.5	111.9	105.2	105.2
85°	68.3	66.7	65.1	60.0	58.4
87.5°	30.1	26.8	23.4	18.4	16.7
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	12.10	13.71	12.47	14.03	14.34	11.66	13.27	12.02	13.58	13.90
	3H	13.85	15.31	14.23	15.64	16.00	13.36	14.82	13.74	15.14	15.50
	4H	14.50	15.87	14.90	16.22	16.59	14.01	15.38	14.40	15.72	16.10
	6H	14.97	16.24	15.38	16.60	16.99	14.47	15.74	14.88	16.10	16.49
	8H	15.11	16.32	15.54	16.71	17.11	14.61	15.82	15.03	16.21	16.61
	12H	15.20	16.36	15.63	16.74	17.17	14.69	15.85	15.12	16.23	16.66
4H	2H	12.66	14.03	13.06	14.38	14.76	12.31	13.68	12.71	14.03	14.40
	3H	14.64	15.79	15.05	16.18	16.58	14.23	15.38	14.64	15.78	16.18
	4H	15.42	16.45	15.85	16.87	17.30	14.99	16.03	15.42	16.44	16.88
	6H	16.01	16.92	16.47	17.36	17.81	15.58	16.49	16.03	16.93	17.38
	8H	16.20	17.05	16.66	17.49	17.96	15.76	16.61	16.22	17.05	17.52
	12H	16.33	17.09	16.81	17.57	18.04	15.88	16.64	16.36	17.12	17.59
8H	4H	15.69	16.54	16.15	16.98	17.44	15.32	16.16	15.78	16.60	17.07
	6H	16.40	17.11	16.90	17.60	18.07	16.02	16.73	16.52	17.21	17.69
	8H	16.66	17.29	17.17	17.80	18.29	16.27	16.90	16.78	17.41	17.90
	12H	16.86	17.42	17.37	17.91	18.47	16.45	17.01	16.96	17.50	18.06
12H	4H	15.72	16.48	16.20	16.95	17.42	15.35	16.11	15.83	16.59	17.06
	6H	16.45	17.08	16.96	17.59	18.07	16.08	16.71	16.59	17.22	17.71
	8H	16.76	17.32	17.27	17.81	18.37	16.39	16.94	16.89	17.43	17.99