

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: P930654

Luminaire Tested: DFN2DS-PN4F0-050DS835-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930654
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-PN4F0-050DS835-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

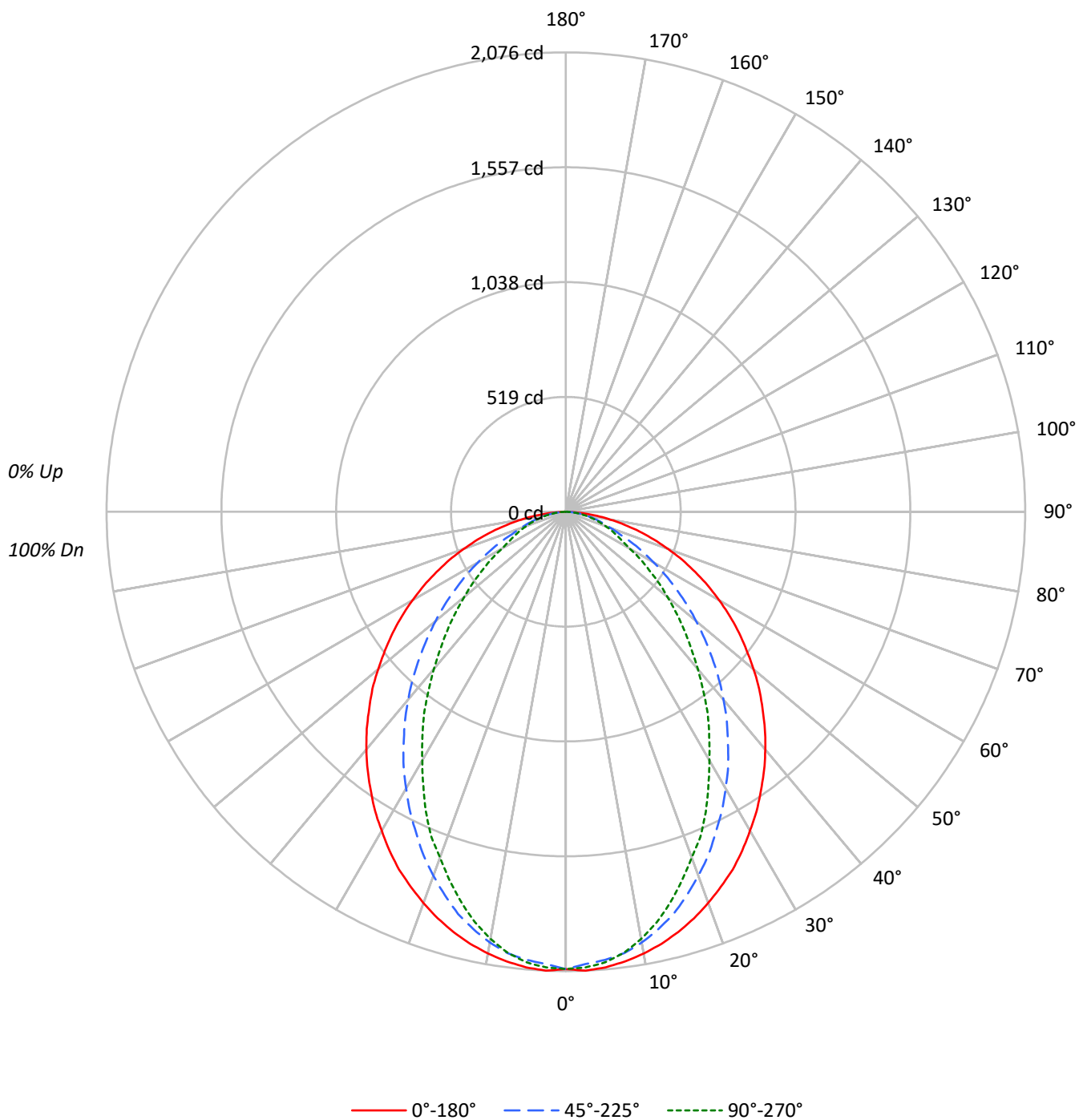
Lumens per Lamp: N/A
Luminaire Lumens: 4250.0 lumens
Efficiency: N/A
Efficacy: 87.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

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°	1508	1508	1508
5°	1514	1490	1498
10°	1503	1465	1453
15°	1485	1422	1381
20°	1461	1360	1291
25°	1437	1289	1205
30°	1403	1217	1094
35°	1370	1138	997
40°	1337	1057	884
45°	1297	965	782
50°	1257	873	682
55°	1216	773	586
60°	1169	669	486
65°	1114	562	443
70°	1050	463	407
75°	970	422	380
80°	857	377	346
85°	673	297	297

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1297 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.7	4.6
10°-20°	531.7	12.5
20°-30°	746.5	17.6
30°-40°	813.7	19.1
40°-50°	747.9	17.6
50°-60°	587.3	13.8
60°-70°	382.3	9.0
70°-80°	196.8	4.6
80°-90°	50.2	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°	1471.8	34.6
0°-40°	2285.5	53.8
0°-60°	3620.7	85.2
0°-90°	4250.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4250.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2066	2066	2066	2066	2066	
5°	2066	2057	2033	2050	2044	196
15°	1966	1945	1881	1846	1827	554
25°	1784	1724	1601	1524	1496	821
35°	1537	1442	1277	1160	1118	962
45°	1257	1131	935	802	757	971
55°	956	810	608	496	460	854
65°	645	494	325	262	256	640
75°	344	213	150	136	135	364
85°	80	41	36	36	36	96
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2066.5	2066.5	2066.5	2066.5	2066.5
2.5°	2075.8	2066.5	2045.9	2064.7	2060.9
5°	2066.5	2057.2	2032.8	2049.6	2044.1
7.5°	2049.6	2038.5	2012.3	2019.7	2010.3
10°	2027.2	2014.1	1976.8	1971.1	1959.9
12.5°	1999.2	1982.4	1931.8	1920.7	1900.0
15°	1965.5	1944.9	1881.4	1845.9	1827.2
17.5°	1926.2	1896.3	1817.7	1776.6	1746.6
20°	1881.4	1843.9	1750.4	1703.8	1662.5
22.5°	1832.8	1789.7	1681.2	1617.7	1589.7
25°	1784.1	1724.2	1600.8	1524.2	1496.0
27.5°	1726.2	1662.5	1526.0	1438.1	1395.1
30°	1664.5	1593.3	1443.7	1348.4	1297.8
32.5°	1604.6	1518.5	1365.3	1253.0	1206.2
35°	1537.3	1441.9	1277.4	1159.5	1118.3
37.5°	1471.8	1368.9	1195.1	1065.9	1019.3
40°	1402.6	1290.5	1108.9	976.2	927.6
42.5°	1331.6	1211.9	1023.0	884.5	837.9
45°	1256.8	1131.4	935.1	802.2	757.3
47.5°	1185.7	1053.0	851.0	718.1	677.0
50°	1107.2	974.4	768.7	639.5	600.4
52.5°	1030.4	890.1	690.1	566.7	531.2
55°	955.6	809.7	607.7	495.6	460.1
57.5°	879.0	729.4	534.9	430.2	400.2
60°	800.4	650.8	458.1	362.9	332.9
62.5°	723.8	574.2	392.7	303.0	288.1
65°	645.2	493.7	325.4	261.9	256.2
67.5°	570.4	418.9	261.9	230.0	224.4
70°	491.9	346.0	216.9	198.2	190.7
72.5°	417.1	278.6	181.4	166.5	162.7
75°	344.1	213.1	149.6	136.5	134.7
77.5°	271.2	151.4	117.9	110.3	106.5
80°	203.8	108.5	89.7	82.3	82.3
82.5°	142.1	73.0	61.7	57.9	57.9
85°	80.4	41.1	35.5	35.5	35.5
87.5°	30.0	14.9	14.9	13.1	13.1
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	12.66	14.18	13.03	14.50	14.81	8.62	10.15	8.99	10.46	10.77
	3H	14.43	15.79	14.81	16.12	16.48	9.89	11.25	10.27	11.58	11.94
	4H	15.09	16.38	15.49	16.72	17.10	10.39	11.67	10.79	12.02	12.40
	6H	15.58	16.77	16.00	17.13	17.53	10.77	11.95	11.18	12.32	12.71
	8H	15.75	16.88	16.18	17.27	17.67	10.90	12.02	11.32	12.41	12.81
	12H	15.85	16.93	16.28	17.31	17.74	10.98	12.05	11.41	12.44	12.87
4H	2H	12.77	14.05	13.17	14.40	14.77	9.32	10.60	9.72	10.95	11.33
	3H	14.70	15.76	15.11	16.16	16.56	10.76	11.83	11.17	12.23	12.63
	4H	15.45	16.41	15.88	16.82	17.26	11.36	12.32	11.79	12.73	13.17
	6H	16.04	16.87	16.50	17.32	17.78	11.85	12.68	12.31	13.12	13.58
	8H	16.26	17.03	16.72	17.48	17.94	12.01	12.79	12.47	13.23	13.70
	12H	16.41	17.10	16.89	17.58	18.05	12.13	12.82	12.61	13.30	13.77
8H	4H	15.47	16.25	15.94	16.70	17.16	11.72	12.49	12.18	12.94	13.40
	6H	16.11	16.75	16.61	17.25	17.72	12.30	12.94	12.80	13.44	13.91
	8H	16.36	16.94	16.88	17.45	17.94	12.52	13.10	13.04	13.61	14.10
	12H	16.57	17.08	17.08	17.57	18.13	12.70	13.21	13.21	13.70	14.27
12H	4H	15.46	16.15	15.94	16.63	17.10	11.76	12.45	12.24	12.93	13.40
	6H	16.09	16.67	16.61	17.18	17.67	12.37	12.94	12.88	13.45	13.94
	8H	16.38	16.89	16.89	17.38	17.94	12.64	13.15	13.15	13.64	14.20