

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: P930454

Luminaire Tested: DFN2DS-PN2F0-040DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930454
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-PN2F0-040DS830-RLL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

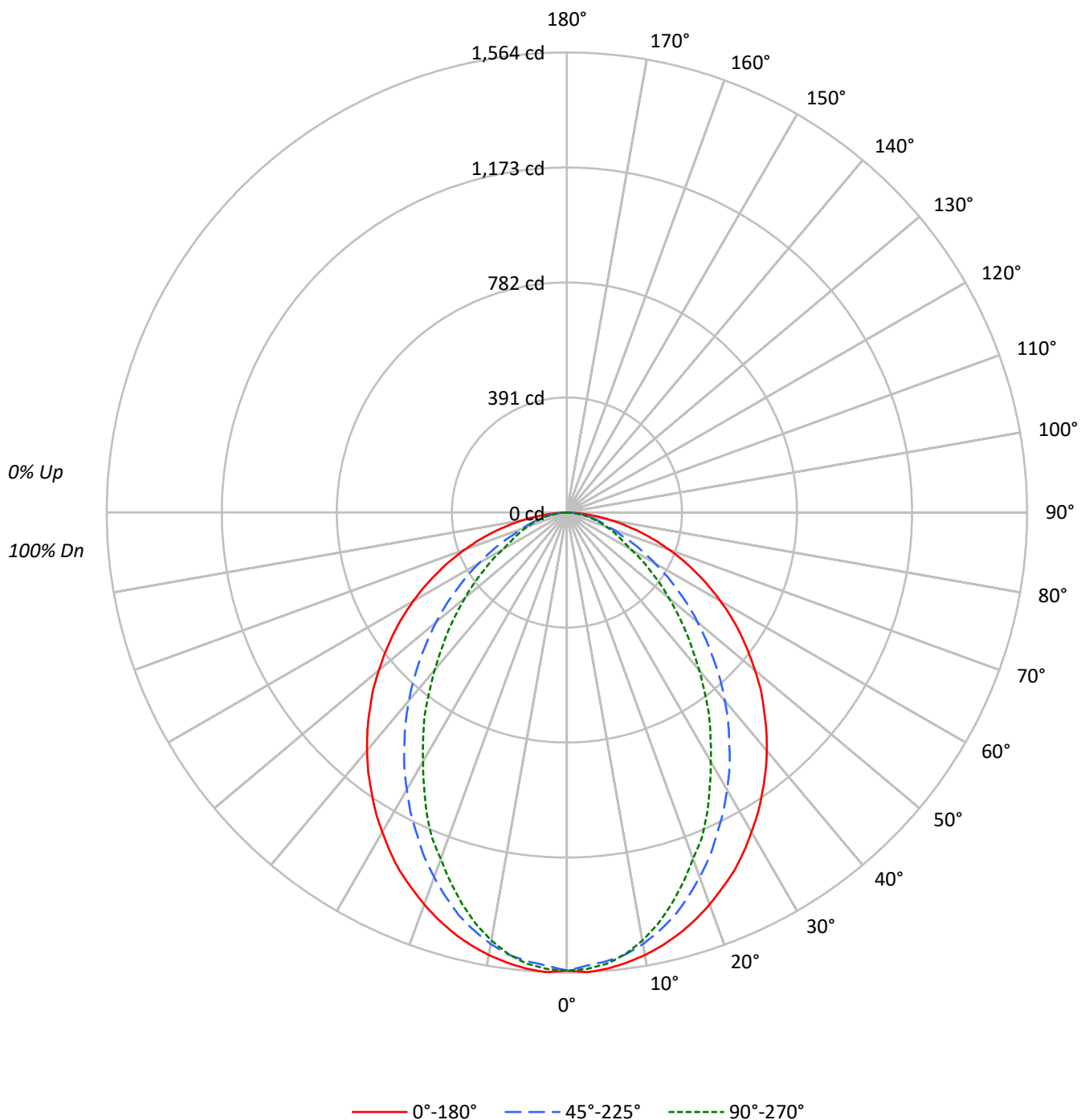
Lumens per Lamp: N/A
Luminaire Lumens: 3202.8 lumens
Efficiency: N/A
Efficacy: 75.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.29' x L: 2.17' x H: 0')
CIE Type: Direct

Input Watts (W): 42.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9613
Total Harmonic Distortion (THDi): 0.083
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°	3373	3373	3373
5°	3386	3331	3349
10°	3360	3276	3249
15°	3321	3179	3088
20°	3268	3040	2888
25°	3213	2883	2694
30°	3137	2721	2446
35°	3063	2545	2228
40°	2989	2363	1977
45°	2901	2159	1748
50°	2811	1952	1524
55°	2720	1729	1310
60°	2613	1495	1087
65°	2492	1257	989
70°	2347	1035	910
75°	2169	944	849
80°	1915	842	775
85°	1506	666	666

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2901 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.0	4.6
10°-20°	400.7	12.5
20°-30°	562.5	17.6
30°-40°	613.2	19.1
40°-50°	563.6	17.6
50°-60°	442.6	13.8
60°-70°	288.1	9.0
70°-80°	148.3	4.6
80°-90°	37.9	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°	1109.1	34.6
0°-40°	1722.3	53.8
0°-60°	2728.5	85.2
0°-90°	3202.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3202.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1557	1557	1557	1557	1557	
5°	1557	1550	1532	1545	1540	148
15°	1481	1466	1418	1391	1377	417
25°	1344	1299	1206	1149	1127	618
35°	1159	1087	963	874	843	725
45°	947	853	705	605	571	731
55°	720	610	458	374	347	644
65°	486	372	245	197	193	482
75°	259	161	113	103	102	274
85°	61	31	27	27	27	73
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1557.3	1557.3	1557.3	1557.3	1557.3
2.5°	1564.4	1557.3	1541.8	1556.0	1553.1
5°	1557.3	1550.2	1531.9	1544.6	1540.5
7.5°	1544.6	1536.2	1516.5	1522.0	1515.0
10°	1527.7	1517.8	1489.7	1485.3	1477.1
12.5°	1506.6	1493.9	1455.8	1447.4	1431.8
15°	1481.2	1465.7	1417.8	1391.1	1377.0
17.5°	1451.6	1429.0	1369.8	1338.9	1316.3
20°	1417.8	1389.5	1319.1	1283.9	1252.9
22.5°	1381.2	1348.8	1266.9	1219.0	1198.0
25°	1344.5	1299.4	1206.3	1148.7	1127.4
27.5°	1300.9	1252.9	1150.0	1083.8	1051.3
30°	1254.4	1200.7	1087.9	1016.1	978.1
32.5°	1209.2	1144.3	1028.9	944.3	908.9
35°	1158.6	1086.6	962.6	873.8	842.7
37.5°	1109.2	1031.6	900.6	803.2	768.1
40°	1057.0	972.5	835.7	735.7	699.1
42.5°	1003.4	913.3	770.9	666.6	631.4
45°	947.1	852.6	704.7	604.6	570.8
47.5°	893.6	793.5	641.3	541.2	510.2
50°	834.3	734.3	579.2	481.9	452.4
52.5°	776.5	670.8	520.1	427.0	400.3
55°	720.2	610.2	458.0	373.5	346.8
57.5°	662.4	549.7	403.1	324.1	301.6
60°	603.2	490.4	345.2	273.5	250.9
62.5°	545.5	432.8	295.9	228.3	217.1
65°	486.3	372.0	245.2	197.3	193.0
67.5°	429.9	315.7	197.3	173.3	169.1
70°	370.7	260.7	163.4	149.4	143.7
72.5°	314.3	210.0	136.7	125.5	122.6
75°	259.2	160.6	112.8	102.9	101.5
77.5°	204.4	114.1	88.8	83.2	80.3
80°	153.5	81.8	67.5	62.1	62.1
82.5°	107.1	55.0	46.5	43.6	43.6
85°	60.6	31.0	26.8	26.8	26.8
87.5°	22.6	11.2	11.2	9.9	9.9
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	15.46	16.98	15.82	17.29	17.61	11.42	12.94	11.78	13.25	13.57
	3H	17.22	18.59	17.60	18.92	19.28	12.68	14.05	13.06	14.38	14.74
	4H	17.89	19.17	18.29	19.52	19.90	13.19	14.47	13.59	14.81	15.19
	6H	18.38	19.56	18.79	19.93	20.32	13.57	14.75	13.98	15.12	15.51
	8H	18.54	19.67	18.97	20.06	20.46	13.69	14.82	14.12	15.21	15.61
	12H	18.65	19.73	19.08	20.11	20.54	13.77	14.85	14.20	15.23	15.66
4H	2H	15.56	16.84	15.96	17.19	17.57	12.11	13.39	12.51	13.74	14.12
	3H	17.50	18.56	17.91	18.96	19.36	13.56	14.62	13.97	15.02	15.42
	4H	18.25	19.20	18.68	19.62	20.06	14.16	15.11	14.59	15.53	15.97
	6H	18.84	19.67	19.29	20.11	20.57	14.65	15.48	15.10	15.92	16.38
	8H	19.05	19.83	19.52	20.27	20.74	14.81	15.58	15.27	16.03	16.50
	12H	19.21	19.90	19.69	20.38	20.85	14.92	15.62	15.41	16.10	16.57
8H	4H	18.27	19.05	18.73	19.49	19.96	14.51	15.29	14.97	15.73	16.20
	6H	18.91	19.55	19.40	20.04	20.52	15.10	15.74	15.59	16.23	16.71
	8H	19.16	19.73	19.67	20.24	20.73	15.32	15.90	15.83	16.41	16.89
	12H	19.36	19.87	19.87	20.36	20.93	15.50	16.01	16.01	16.50	17.06
12H	4H	18.25	18.95	18.74	19.43	19.90	14.55	15.25	15.04	15.73	16.20
	6H	18.89	19.47	19.40	19.98	20.46	15.16	15.74	15.68	16.25	16.74
	8H	19.17	19.68	19.68	20.17	20.74	15.43	15.94	15.94	16.44	17.00