

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: P916522

Luminaire Tested: DFN2DIP-PN2F0-030D050US930-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P916522
REPORT IS A COMBINATION OF REPORTS P899494 AND P896349
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-030D050US930-RLLFLL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

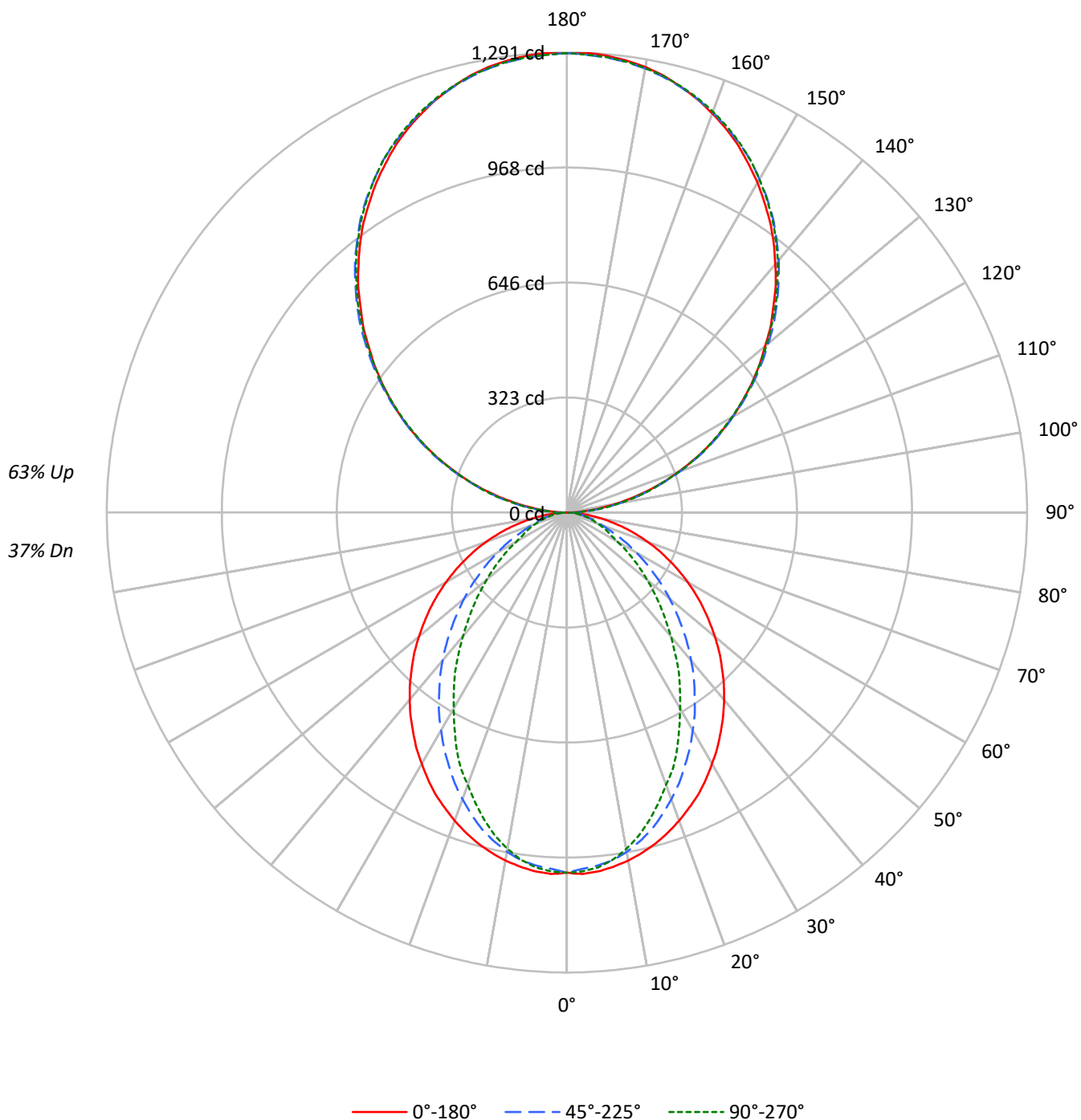
Lumens per Lamp: N/A
Luminaire Lumens: 5686.7 lumens
Efficiency: N/A
Efficacy: 82.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 69
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9972
Total Harmonic Distortion (THDi): 0.128
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	30	10
RCR																	
0	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44
1	95	91	87	84	86	83	80	77	67	65	63	53	51	50	39	38	38
2	87	80	74	69	79	73	68	63	59	56	53	47	44	42	35	34	32
3	79	70	64	58	72	64	58	53	52	48	45	41	39	36	31	29	28
4	73	63	55	49	66	57	51	46	47	42	38	37	34	31	28	26	24
5	67	56	48	42	60	51	44	39	42	37	33	33	30	27	26	23	21
6	62	50	42	37	56	46	39	34	38	33	29	30	27	24	23	21	19
7	57	45	38	32	52	41	35	30	34	29	26	28	24	21	21	19	17
8	53	41	34	29	48	38	31	27	31	26	23	25	22	19	20	17	15
9	49	38	30	25	45	34	28	24	29	24	20	23	20	17	18	16	14
10	46	34	27	23	42	32	25	21	26	22	18	22	18	16	17	14	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2189	2189	2189
5°	2189	2150	2165
10°	2164	2103	2092
15°	2131	2029	1980
20°	2088	1929	1844
25°	2044	1818	1712
30°	1986	1704	1547
35°	1929	1582	1401
40°	1871	1456	1235
45°	1804	1318	1085
50°	1734	1178	938
55°	1661	1029	798
60°	1576	875	654
65°	1479	718	584
70°	1360	572	525
75°	1211	495	471
80°	996	403	399
85°	651	251	283

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1804 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.7	1.7
10°-20°	260.1	4.6
20°-30°	365.1	6.4
30°-40°	398.0	7.0
40°-50°	365.8	6.4
50°-60°	287.3	5.1
60°-70°	187.0	3.3
70°-80°	96.3	1.7
80°-90°	28.3	0.5
90°-100°	79.8	1.4
100°-110°	253.5	4.5
110°-120°	433.8	7.6
120°-130°	570.5	10.0
130°-140°	640.4	11.3
140°-150°	627.9	11.0
150°-160°	526.8	9.3
160°-170°	349.3	6.1
170°-180°	122.1	2.1
0°-30°	720.0	12.7
0°-40°	1118.0	19.7
0°-60°	1771.2	31.1
0°-90°	2082.7	36.6
90°-120°	767.0	13.5
90°-150°	2605.8	45.8
90°-180°	3604.0	63.4
0°-180°	5686.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1011	1011	1011	1011	1011	
5°	1011	1006	994	1003	1000	96
15°	962	951	920	903	894	271
25°	873	843	783	746	732	401
35°	752	705	625	567	547	471
45°	615	553	458	392	370	475
55°	467	396	297	242	225	418
65°	316	242	159	128	125	313
75°	168	104	73	67	66	178
85°	39	20	17	17	17	45
90°	1	14	38	36	37	6
95°	57	68	70	70	68	63
105°	234	237	240	241	241	247
115°	435	442	440	438	435	431
125°	633	643	640	636	635	566
135°	819	831	833	832	829	633
145°	994	1002	1008	1009	1005	621
155°	1137	1140	1144	1149	1145	523
165°	1237	1236	1236	1243	1238	349
175°	1287	1284	1282	1289	1283	122
180°	1289	1289	1289	1289	1289	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1010.9	1010.9	1010.9	1010.9	1010.9
2.5°	1015.5	1010.9	1000.8	1010.0	1008.2
5°	1010.9	1006.3	994.4	1002.7	999.9
7.5°	1002.7	997.2	984.4	988.0	983.4
10°	991.6	985.3	967.0	964.2	958.8
12.5°	978.0	969.7	945.0	939.5	929.4
15°	961.5	951.4	920.3	902.9	893.8
17.5°	942.2	927.6	889.2	869.1	854.4
20°	920.3	902.0	856.2	833.5	813.3
22.5°	896.6	875.5	822.4	791.3	777.6
25°	872.8	843.4	783.1	745.6	731.8
27.5°	844.4	813.3	746.5	703.5	682.4
30°	814.2	779.4	706.2	659.7	634.9
32.5°	784.9	742.8	667.9	612.9	590.0
35°	752.0	705.3	624.8	567.2	547.1
37.5°	720.0	669.6	584.6	521.4	498.6
40°	686.2	631.3	542.5	477.5	453.8
42.5°	651.3	592.9	500.4	432.7	409.9
45°	614.8	553.4	457.5	392.4	370.5
47.5°	580.0	515.1	416.3	351.2	331.2
50°	541.6	476.6	376.0	312.8	293.7
52.5°	504.0	435.5	337.6	277.2	259.8
55°	467.4	396.1	297.3	242.5	225.1
57.5°	430.0	356.8	261.7	210.4	195.8
60°	391.5	318.4	224.1	177.5	162.9
62.5°	354.1	280.9	192.1	148.2	141.0
65°	315.6	241.5	159.1	128.1	125.3
67.5°	279.1	204.9	128.1	112.5	109.7
70°	240.6	169.3	106.1	96.9	93.3
72.5°	204.0	136.2	88.7	81.4	79.6
75°	168.3	104.3	73.2	66.8	65.9
77.5°	132.6	74.0	57.6	54.0	52.1
80°	99.7	53.1	43.9	40.3	40.3
82.5°	69.5	35.7	30.2	28.4	28.4
85°	39.3	20.1	17.4	17.4	17.4
87.5°	14.7	7.3	7.3	6.4	6.4
90°	1.1	14.0	38.1	35.8	36.9
92.5°	24.1	32.6	33.8	35.0	35.0
95°	56.7	67.7	69.5	69.5	67.7
97.5°	94.4	104.5	108.8	108.8	108.8
100°	137.9	146.9	150.0	150.0	148.9
102.5°	183.8	190.5	194.7	195.9	194.7
105°	234.0	237.1	239.5	241.3	241.3
107.5°	283.7	288.4	288.4	289.2	283.7
110°	331.9	338.2	338.2	338.2	335.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	384.0	390.6	389.5	386.4	384.0
115°	435.3	441.6	439.6	438.5	435.3
117.5°	486.2	494.8	489.3	486.2	483.1
120°	537.5	546.1	537.5	537.5	534.0
122.5°	584.2	595.1	589.6	586.5	584.2
125°	633.2	642.9	639.8	636.3	635.1
127.5°	680.9	693.0	688.8	684.0	680.9
130°	725.7	739.6	737.7	735.4	731.1
132.5°	775.8	786.7	787.5	782.0	778.9
135°	819.0	831.0	833.3	832.2	829.1
137.5°	867.2	876.9	878.8	878.0	873.3
140°	909.5	919.2	924.6	924.6	920.4
142.5°	953.0	962.8	965.9	967.0	962.8
145°	994.3	1002.0	1008.2	1009.4	1005.1
147.5°	1031.2	1040.9	1045.5	1047.5	1043.2
150°	1069.3	1075.9	1080.1	1083.6	1080.1
152.5°	1103.1	1109.7	1115.1	1119.4	1115.1
155°	1136.9	1140.0	1143.5	1148.9	1145.4
157.5°	1166.0	1168.3	1170.3	1178.1	1172.6
160°	1192.0	1194.4	1195.6	1202.2	1197.5
162.5°	1216.2	1216.2	1217.3	1224.7	1219.3
165°	1236.8	1235.6	1235.6	1243.4	1237.9
167.5°	1255.4	1251.9	1251.9	1259.7	1254.3
170°	1269.4	1266.3	1265.2	1272.9	1266.3
172.5°	1279.1	1276.0	1274.9	1282.6	1276.0
175°	1286.9	1283.8	1281.5	1289.2	1282.6
177.5°	1291.2	1288.1	1285.7	1292.3	1285.7
180°	1289.2	1289.2	1289.2	1289.2	1289.2

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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	8.36	9.09	9.43	10.16	11.61	4.32	5.06	5.39	6.12	7.58
	3H	10.01	10.66	11.09	11.74	13.21	5.49	6.14	6.57	7.22	8.69
	4H	10.60	11.22	11.69	12.30	13.77	5.92	6.54	7.01	7.62	9.10
	6H	11.00	11.57	12.10	12.65	14.14	6.22	6.79	7.32	7.87	9.36
	8H	11.11	11.65	12.21	12.75	14.23	6.30	6.85	7.41	7.94	9.43
	12H	11.16	11.68	12.27	12.77	14.27	6.34	6.85	7.44	7.94	9.45
4H	2H	8.36	8.98	9.46	10.06	11.53	4.90	5.52	5.99	6.59	8.07
	3H	10.16	10.67	11.26	11.78	13.27	6.22	6.73	7.32	7.84	9.33
	4H	10.83	11.30	11.94	12.40	13.91	6.75	7.22	7.85	8.32	9.83
	6H	11.32	11.72	12.43	12.84	14.34	7.14	7.55	8.26	8.67	10.17
	8H	11.48	11.86	12.59	12.97	14.49	7.26	7.64	8.38	8.75	10.27
	12H	11.56	11.90	12.69	13.02	14.55	7.31	7.65	8.44	8.78	10.30
8H	4H	10.78	11.16	11.90	12.27	13.79	7.01	7.39	8.12	8.50	10.02
	6H	11.32	11.64	12.46	12.79	14.30	7.50	7.81	8.64	8.96	10.48
	8H	11.53	11.80	12.67	12.93	14.47	7.68	7.95	8.82	9.08	10.62
	12H	11.65	11.89	12.79	13.02	14.59	7.78	8.02	8.93	9.15	10.72
12H	4H	10.73	11.07	11.86	12.20	13.72	7.00	7.35	8.14	8.47	9.99
	6H	11.30	11.57	12.44	12.70	14.24	7.54	7.82	8.69	8.95	10.49
	8H	11.50	11.74	12.64	12.87	14.44	7.74	7.98	8.88	9.10	10.68

END OF REPORT