

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: P902954

Luminaire Tested: DFN2DIP-PN3F0-030D040US830-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P902954
REPORT IS A COMBINATION OF REPORTS P899526 AND P896399
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-030D040US830-RLLFLL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

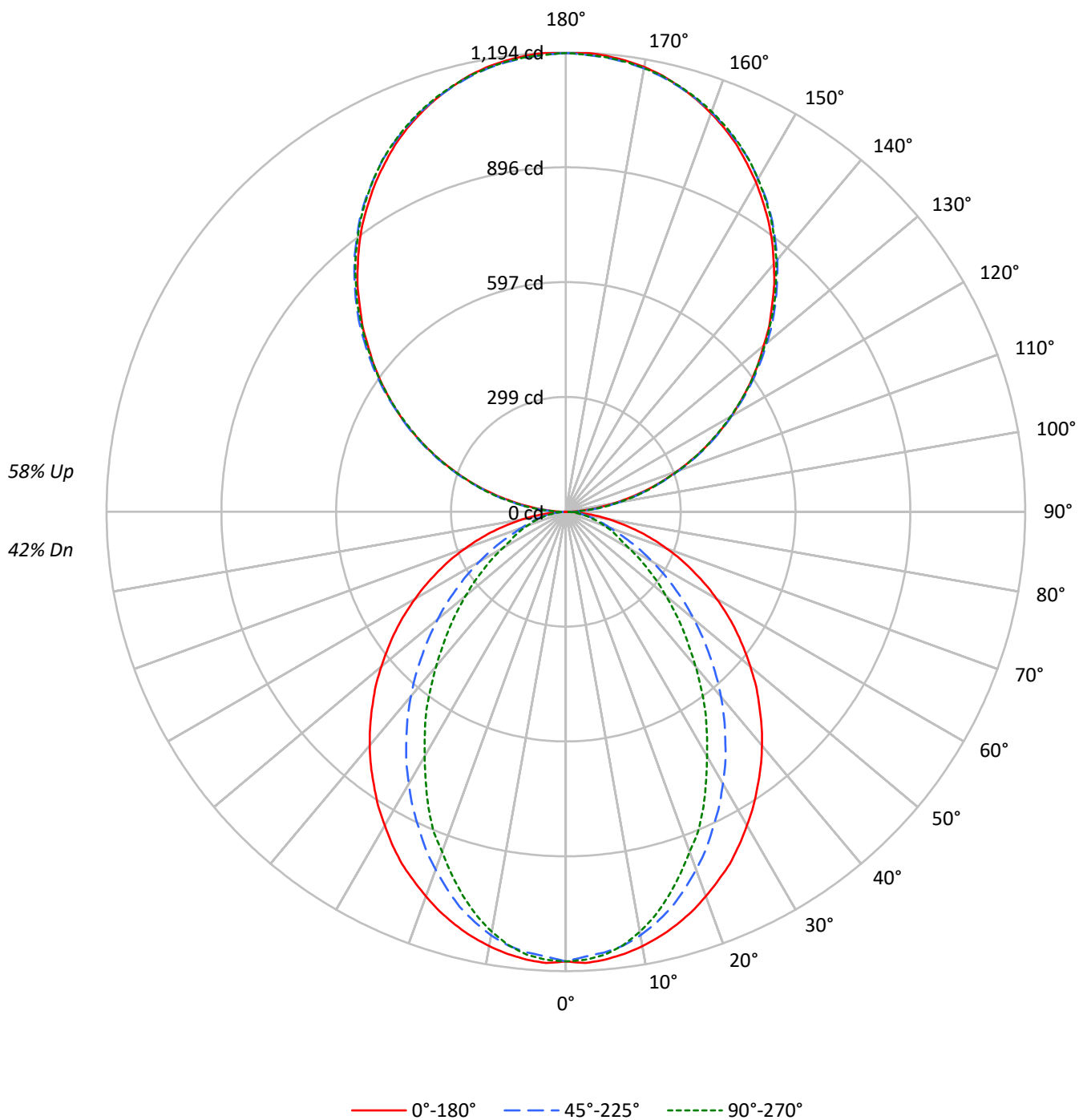
Lumens per Lamp: N/A
Luminaire Lumens: 5740.1 lumens
Efficiency: N/A
Efficacy: 106.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 53.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49
1	96	92	89	85	88	84	81	78	70	67	65	56	55	53	44	43	42
2	88	81	75	70	80	74	69	65	61	58	55	50	47	45	39	37	36
3	81	72	65	59	73	66	60	55	55	50	47	44	41	39	35	33	31
4	74	64	56	50	67	58	52	47	49	44	40	40	36	33	31	29	27
5	68	57	49	43	62	52	45	40	44	39	35	36	32	29	28	26	24
6	63	51	43	38	57	47	40	35	40	34	30	33	29	26	26	23	21
7	58	46	38	33	53	43	36	31	36	31	27	30	26	23	24	21	19
8	54	42	34	29	49	39	32	28	33	28	24	27	23	21	22	19	17
9	50	38	31	26	46	36	29	25	30	25	22	25	21	19	20	18	16
10	47	35	28	24	43	33	26	22	28	23	19	23	19	17	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1366	1366	1366
5°	1368	1344	1352
10°	1353	1316	1308
15°	1334	1272	1239
20°	1308	1211	1155
25°	1282	1143	1074
30°	1247	1073	972
35°	1213	998	882
40°	1179	921	778
45°	1138	835	685
50°	1097	749	594
55°	1053	657	506
60°	1002	561	416
65°	944	463	374
70°	873	371	337
75°	784	325	306
80°	657	270	263
85°	445	176	194

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1180 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.5	1.9
10°-20°	300.7	5.2
20°-30°	422.1	7.4
30°-40°	460.2	8.0
40°-50°	422.9	7.4
50°-60°	332.2	5.8
60°-70°	216.2	3.8
70°-80°	111.3	1.9
80°-90°	31.8	0.6
90°-100°	73.8	1.3
100°-110°	234.4	4.1
110°-120°	401.2	7.0
120°-130°	527.6	9.2
130°-140°	592.2	10.3
140°-150°	580.8	10.1
150°-160°	487.2	8.5
160°-170°	323.1	5.6
170°-180°	112.9	2.0
0°-30°	832.3	14.5
0°-40°	1292.5	22.5
0°-60°	2047.6	35.7
0°-90°	2406.9	41.9
90°-120°	709.4	12.4
90°-150°	2410.0	42.0
90°-180°	3333.0	58.1
0°-180°	5740.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1169	1169	1169	1169	1169	
5°	1169	1163	1150	1159	1156	111
15°	1112	1100	1064	1044	1033	313
25°	1009	975	905	862	846	464
35°	869	815	722	656	632	544
45°	711	640	529	454	428	549
55°	540	458	344	280	260	483
65°	365	279	184	148	145	362
75°	194	121	85	77	76	206
85°	45	23	20	20	20	52
90°	1	13	35	33	34	6
95°	52	63	64	64	63	58
105°	216	219	221	223	223	228
115°	403	408	406	406	403	398
125°	586	595	592	588	587	523
135°	757	768	771	770	767	585
145°	920	927	932	934	930	575
155°	1051	1054	1058	1063	1059	484
165°	1144	1143	1143	1150	1145	323
175°	1190	1187	1185	1192	1186	113
180°	1192	1192	1192	1192	1192	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1168.7	1168.7	1168.7	1168.7	1168.7
2.5°	1173.9	1168.7	1157.0	1167.6	1165.5
5°	1168.7	1163.4	1149.6	1159.1	1155.9
7.5°	1159.1	1152.8	1138.0	1142.2	1136.9
10°	1146.4	1139.1	1117.9	1114.7	1108.4
12.5°	1130.6	1121.1	1092.5	1086.2	1074.5
15°	1111.5	1099.9	1063.9	1043.9	1033.3
17.5°	1089.3	1072.4	1027.9	1004.8	987.8
20°	1063.9	1042.7	989.9	963.6	940.2
22.5°	1036.5	1012.1	950.7	914.8	899.0
25°	1009.0	975.1	905.3	862.0	846.0
27.5°	976.2	940.2	863.0	813.3	788.9
30°	941.3	901.1	816.4	762.6	734.0
32.5°	907.4	858.8	772.1	708.6	682.1
35°	869.4	815.4	722.4	655.7	632.4
37.5°	832.4	774.1	675.8	602.8	576.5
40°	793.2	729.8	627.2	552.0	524.6
42.5°	753.0	685.4	578.5	500.2	473.8
45°	710.8	639.8	528.9	453.6	428.3
47.5°	670.5	595.5	481.3	406.0	382.9
50°	626.1	551.0	434.7	361.7	339.5
52.5°	582.7	503.4	390.3	320.5	300.4
55°	540.4	457.9	343.7	280.3	260.2
57.5°	497.1	412.5	302.6	243.3	226.3
60°	452.6	368.1	259.1	205.2	188.3
62.5°	409.3	324.7	222.1	171.4	163.0
65°	364.9	279.2	184.0	148.1	144.9
67.5°	322.6	236.9	148.1	130.1	126.9
70°	278.1	195.7	122.6	112.1	107.8
72.5°	235.8	157.5	102.5	94.2	92.0
75°	194.5	120.6	84.6	77.2	76.2
77.5°	153.4	85.6	66.6	62.4	60.2
80°	115.3	61.4	50.7	46.6	46.6
82.5°	80.3	41.3	34.9	32.8	32.8
85°	45.4	23.2	20.1	20.1	20.1
87.5°	17.0	8.4	8.4	7.4	7.4
90°	1.0	12.9	35.3	33.1	34.1
92.5°	22.2	30.2	31.3	32.3	32.3
95°	52.5	62.6	64.4	64.4	62.6
97.5°	87.4	96.7	100.7	100.7	100.7
100°	127.6	135.9	138.7	138.7	137.7
102.5°	170.0	176.2	180.1	181.2	180.1
105°	216.4	219.2	221.4	223.2	223.2
107.5°	262.4	266.7	266.7	267.4	262.4
110°	307.0	312.7	312.7	312.7	309.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	355.1	361.3	360.1	357.3	355.1
115°	402.6	408.4	406.5	405.5	402.6
117.5°	449.7	457.6	452.6	449.7	446.9
120°	497.2	505.0	497.2	497.2	493.9
122.5°	540.3	550.4	545.4	542.4	540.3
125°	585.6	594.6	591.7	588.4	587.4
127.5°	629.8	640.9	637.0	632.6	629.8
130°	671.1	684.1	682.3	680.1	676.2
132.5°	717.5	727.5	728.3	723.2	720.4
135°	757.4	768.5	770.7	769.6	766.8
137.5°	802.0	811.0	812.8	812.0	807.8
140°	841.1	850.2	855.2	855.2	851.2
142.5°	881.5	890.4	893.2	894.4	890.4
145°	919.5	926.7	932.5	933.6	929.6
147.5°	953.7	962.6	967.0	968.7	964.8
150°	988.9	995.0	999.0	1002.2	999.0
152.5°	1020.2	1026.2	1031.3	1035.3	1031.3
155°	1051.4	1054.3	1057.5	1062.6	1059.3
157.5°	1078.5	1080.5	1082.3	1089.6	1084.5
160°	1102.5	1104.7	1105.7	1111.8	1107.5
162.5°	1124.7	1124.7	1125.9	1132.7	1127.7
165°	1143.9	1142.7	1142.7	1149.9	1144.9
167.5°	1161.1	1157.8	1157.8	1165.1	1160.0
170°	1174.0	1171.1	1170.1	1177.2	1171.1
172.5°	1183.0	1180.2	1179.0	1186.3	1180.2
175°	1190.2	1187.3	1185.2	1192.3	1186.3
177.5°	1194.2	1191.3	1189.1	1195.2	1189.1
180°	1192.3	1192.3	1192.3	1192.3	1192.3

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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	7.39	8.16	8.42	9.19	10.57	3.35	4.12	4.38	5.16	6.54
	3H	9.05	9.74	10.09	10.78	12.19	4.53	5.22	5.57	6.26	7.66
	4H	9.66	10.31	10.71	11.35	12.76	4.97	5.63	6.03	6.67	8.08
	6H	10.07	10.67	11.13	11.72	13.14	5.29	5.89	6.35	6.93	8.36
	8H	10.19	10.76	11.26	11.82	13.24	5.37	5.94	6.44	7.01	8.43
	12H	10.25	10.79	11.32	11.85	13.29	5.41	5.95	6.48	7.01	8.45
4H	2H	7.40	8.05	8.45	9.09	10.50	3.94	4.59	5.00	5.63	7.04
	3H	9.21	9.75	10.28	10.83	12.25	5.28	5.82	6.34	6.89	8.31
	4H	9.90	10.39	10.97	11.46	12.90	5.82	6.31	6.89	7.37	8.82
	6H	10.40	10.83	11.48	11.92	13.36	6.23	6.65	7.31	7.74	9.18
	8H	10.57	10.97	11.65	12.05	13.51	6.35	6.75	7.43	7.83	9.28
	12H	10.66	11.02	11.76	12.11	13.57	6.41	6.77	7.51	7.86	9.32
8H	4H	9.86	10.26	10.94	11.33	12.79	6.09	6.48	7.17	7.56	9.02
	6H	10.42	10.74	11.52	11.86	13.32	6.60	6.92	7.70	8.04	9.50
	8H	10.63	10.92	11.74	12.02	13.49	6.78	7.07	7.89	8.17	9.65
	12H	10.76	11.01	11.87	12.11	13.62	6.89	7.15	8.01	8.24	9.76
12H	4H	9.81	10.17	10.91	11.26	12.72	6.09	6.45	7.19	7.54	9.00
	6H	10.39	10.68	11.50	11.78	13.25	6.64	6.93	7.75	8.03	9.51
	8H	10.60	10.86	11.72	11.96	13.47	6.85	7.10	7.96	8.20	9.71